

## Sequence Listing

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Baker, Kevin P.  
Botstein, David  
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Eaton, Dan L.  
Ferrara, Napoleone  
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Gerritsen, Mary E.  
Goddard, Audrey  
Godowski, Paul J.  
Grimaldi, J. Christopher  
Gurney, Austin L.  
Kljavin, Ivar J.  
Napier, Mary A.  
Pan, James  
Paoni, Nicholas F.  
Roy, Margaret Ann  
Stewart, Timothy A.  
Tumas, Daniel  
Watanabe, Colin K.  
Williams, P. Mickey  
Wood, William I.  
Zhang, Zemin

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tattggaaat ctggttggac atctttattt tttcctaatag ttcagatacc 750  
caatggactt gggaggaaga aattttctat ccacacctca gtttttgtac 800  
cgctggctgc ccagtaggag aggaggagta tcaggatttg gtgtgcccc 850  
tgctagcatg aggcgagctg ctgatcagaa tggcggaggc gggagacaca 900  
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aactgcgttc tggctaacac tgttggacct gaccacact gaatgtagtc 1050  
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ccacaagttt cagcattctc attcaagtcc ttactgctgt gaagaacaaa 1150  
taccaactgt gcaaattgca aaactgacta catttttttg tgtcttctct 1200  
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aataacatga tttaagggtt aaatggcttt agaatacttt gggtttgagg 2100  
gtgtgttatt ttgagtcatg aatgtacaag ctctgtgaat cagaccagct 2150

taaataccca cacctttttt tcgtaggtgg gcttttccta tcagagcttg 2200  
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<210> 6  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
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 Arg Tyr Trp Phe Ala Ala Thr Val Ala Val Pro Leu Val Gly Lys  
 20 25 30  
 Leu Gly Leu Ile Ser Pro Ala Tyr Leu Phe Leu Trp Pro Glu Ala  
 35 40 45  
 Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
 50 55 60  
 Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
 65 70 75  
 Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
 80 85 90  
 Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
 95 100 105

Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu
				110					115					120
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln
				125					130					135
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe
				140					145					150
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile
				155					160					165
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
				185					190					195
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
				230					235					240
Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln				
				245					250					

<210> 7  
 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

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 attaactggt tggtagcttc tatectgggg gctgagcgac tgcgggccag 100  
 ctcttcccct actccctctc ggctccttgt ggcccaaagg cctaaccggg 150  
 gtccggcggt ctggcctagg gatcttcccc gttgcccctt tggggcgggg 200  
 tgggtgcgga agaagaagac gaggtggagt gggtagtgga gagcatcgcg 250  
 ggggttctgc gaggcccaga ctggtccatc cccatcttgg actttgtgga 300  
 acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350  
 gccagagacc ggtgattttg gtggcctgtg ttccccttgt ttttgatgat 400  
 gaagaagaaa gcaaattgac ctatacagag attcatcagg aatacaaaga 450  
 actagttgaa aagctgttag aaggttacct caaagaaatt ggaattaatg 500  
 aagatcaatt tcaagaagca tgcatttctc ctcttgcaaa gaccataca 550  
 tcacaggcca ttttgcaacc tgtgttggca gcagaagatt ttactatctt 600  
 taaagcaatg atggtccaga aaaacattga aatgcagctg caagccattc 650  
 gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700

tctgatgtgg tcagtgcct tgaacacgaa gagatgaaaa tcctgaggga 750  
 agttcttaga aaatcaaaag aggaatatga ccaggaagaa gaaaggaaga 800  
 ggaaaaaaca gttatcagag gctaaaacag aagagcccac agtgcattcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatggtg aacattttgc 900  
 acaccacccc tcagaagtta aaatgcattt tgctaatacag tcaatagaac 950  
 ctttgggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
 ggctgaaga ttcttggtt agagcatgag agcattgaag gaccaatagc 1050  
 aaacttatca gtacttggaa cagaagaact tcggcaacga gaacactatc 1100  
 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaacccactg gggaggtaga 1200  
 ggaaatgaca gagaaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Ala Ala Glu Glu Glu Asp Glu Val Glu Trp Val Val Glu Ser  
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 Ile Ala Gly Phe Leu Arg Gly Pro Asp Trp Ser Ile Pro Ile Leu  
 20 25 30  
 Asp Phe Val Glu Gln Lys Cys Glu Val Asn Cys Lys Gly Gly His  
 35 40 45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys  
 50 55 60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr  
 65 70 75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu  
 80 85 90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln  
 95 100 105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala  
 110 115 120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys  
 125 130 135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile  
 140 145 150

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr	
				155					160					165	
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys	
				170					175					180	
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln	
				185					190					195	
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr	
				200					205					210	
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn	
				215					220					225	
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val	
				230					235					240	
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys	
				245					250					255	
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys	
				260					265					270	
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn	
				275					280					285	
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr	
				290					295					300	
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met	
				305					310					315	
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr	
				320					325					330	
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu	
				335					340					345	
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu	
				350					355					360	
Lys	Glu	Glu	Val	Ile	Asn	Lys									
				365											

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
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 ctatacagag attcatcagg aatacaaaga actagttgaa aagctgttag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcatttctc ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatgtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt ccctcaggat ttt 23

<210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atgaagatca atttcaagaa gcatgcactt ctctctctgc 40

<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
 gcgtggtttt tgttctgcaa taggcggcct agagggaggg gctttttcgc 50  
 ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 100  
 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
 cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 200  
 acagtgctgt agtcatcctg taatatgctc ctgtgtcaaca atgtatacat 250  
 tcctgctagg tgccatattc attgctttta gotcaagtcg catcttacta 300  
 gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
 tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 400  
 cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



tcctggaagg aattctctga ttatcatgaag tgggtccattc ctgcctttct 500  
 ttatttcctg gataaactga ttgtcttcta tgtcctgtcc tatcttcaac 550  
 cagccatggc tgttatcttc tcaaatttta gcattataac aacagctctt 600  
 ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 650  
 cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 700  
 ctttacagca caacttggca ggacgtggat ttcattcacga tgcctttttc 750  
 agcccttcca attcctgcct tcttttcaga agtgagtgtc ccagaaaaga 800  
 caattgtaca gcaaaggaat ggacttttcc tgaagctaaa tggaacacca 850  
 cagccagagt ttccagtcac atccgtcttg gcattgggcca tgttcttatt 900  
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 ggatggagaa gaactagaaa gacttaccaa acccaagagt gatgagtcag 1450  
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 cttattttca cattttcagt gtttgaata tttatctttt cactttgata 1550  
 aaccagaaat gtttctaaat cctaatttc tttgcatata tctagctact 1600  
 ccctaaatgg ttccatccaa ggcttagagt acccaaaggc taagaaattc 1650  
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 tacttgataa atcagaaagt tatatgtgca gattattttc cttggccttc 1750  
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 atgccaaagt cttccctttt taacattata aaagctaggt tgtctcttga 1900  
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cagacacaac atctcagaat tttaatTTTT agaaattcat gggaaattgg 2100  
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 ttacattttg gagaataaga gggcatttta ttttattagt tactaattca 2300  
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 gaatattaat actctaaaaa tagaaagacc agtaatatat aagtcacttt 2500  
 acagtgttac ttcacactta aaagtgcagtg gtatttttca tggatttttg 2550  
 catgcagcca gttaactctc gtagatagag aagtcaggtg atagatgata 2600  
 ttaaaaatta gcaaacaaaa gtgacttgct cagggtcatg cagctgggtg 2650  
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 catactgtaa atatgagctt tatgggtgtca ttctcagaaa ottatacatt 2750  
 tctgctctcc tttctcctaa gtttcatgca gatgaatata aggtaatata 2800  
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 tgggtggaaat ttgtaattaa aataattatt aaacct 2886

<210> 14  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
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 Thr Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser  
 20 25 30  
 Ser Ser Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn  
 35 40 45  
 Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu  
 50 55 60  
 Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys  
 65 70 75  
 Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu  
 80 85 90  
 Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe  
 95 100 105  
 Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gln Pro  
 110 115 120

Ala Met Ala Val	Ile Phe Ser Asn Phe	Ser Ile Ile Thr Thr	Ala
	125	130	135
Leu Leu Phe Arg	Ile Val Leu Lys Arg	Arg Leu Asn Trp Ile	Gln
	140	145	150
Trp Ala Ser Leu	Leu Thr Leu Phe Leu	Ser Ile Val Ala Leu	Thr
	155	160	165
Ala Gly Thr Lys	Thr Leu Gln His Asn	Leu Ala Gly Arg Gly	Phe
	170	175	180
His His Asp Ala	Phe Phe Ser Pro Ser	Asn Ser Cys Leu Leu	Phe
	185	190	195
Arg Ser Glu Cys	Pro Arg Lys Asp Asn	Cys Thr Ala Lys Glu	Trp
	200	205	210
Thr Phe Pro Glu	Ala Lys Trp Asn Thr	Thr Ala Arg Val Phe	Ser
	215	220	225
His Ile Arg Leu	Gly Met Gly His Val	Leu Ile Ile Val Gln	Cys
	230	235	240
Phe Ile Ser Ser	Met Ala Asn Ile Tyr	Asn Glu Lys Ile Leu	Lys
	245	250	255
Glu Gly Asn Gln	Leu Thr Glu Ser Ile	Phe Ile Gln Asn Ser	Lys
	260	265	270
Leu Tyr Phe Phe	Gly Ile Leu Phe Asn	Gly Leu Thr Leu Gly	Leu
	275	280	285
Gln Arg Ser Asn	Arg Asp Gln Ile Lys	Asn Cys Gly Phe Phe	Tyr
	290	295	300
Gly His Ser Ala	Phe Ser Val Ala Leu	Ile Phe Val Thr Ala	Phe
	305	310	315
Gln Gly Leu Ser	Val Ala Phe Ile Leu	Lys Phe Leu Asp Asn	Met
	320	325	330
Phe His Val Leu	Met Ala Gln Val Thr	Thr Val Ile Ile Thr	Thr
	335	340	345
Val Ser Val Leu	Val Phe Asp Phe Arg	Pro Ser Leu Glu Phe	Phe
	350	355	360
Leu Glu Ala Pro	Ser Val Leu Leu Ser	Ile Phe Ile Tyr Asn	Ala
	365	370	375
Ser Lys Pro Gln	Val Pro Glu Tyr Ala	Pro Arg Gln Glu Arg	Ile
	380	385	390
Arg Asp Leu Ser	Gly Asn Leu Trp Glu	Arg Ser Ser Gly Asp	Gly
	395	400	405
Glu Glu Leu Glu	Arg Leu Thr Lys Pro	Lys Ser Asp Glu Ser	Asp
	410	415	420
Glu Asp Thr Phe			

<210> 15  
<211> 755  
<212> DNA  
<213> Homo sapiens

<400> 15  
cgtgcctgcg caatgggtgt cgggtccgct ttttccaat cgggacgtaa 50  
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ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 200  
cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 250  
acagtgctgt agtcatcctg taatatgctc cttgtcaaca atgtatacat 300  
tcctgctagg tgccatattc attgctttta gctcaagtgc catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaatgtg tgctcagaac tggatgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 500  
tcctggaagg aattctctga tttcatgaag tggccattc ctgcctttct 550  
ttatttctcg gataactga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tggttatctc tcaaatttta gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttccagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtgt agtcatcctg taatatgtc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

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gcggcctgcg gggcagagga gcatcccgtc taccaggtcc caagcggcgt 150  
ggcccgcggg tcatggccaa aggagaaggc gccgagagcg gctccgcggc 200  
ggggctgcta cccaccagca tcctccaaag cactgaacgc ccggcccagg 250  
tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgccct 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtgggccctt 400  
tctctgcctc catcatcctg tttgtgggcc gagcctggga tgccatcaca 450  
gaccccctgg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
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acttctcat ctggttcgtg cccgacttcc cacacggcca gacctattgg 600  
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tccctactcg gctctcacca tgttcatcag caaccgagca gactgagcgg 700  
gattctgcc aagcctatcg gatgactgtg gaagtgtggt gcacagtgt 750  
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tccaggactt caatagctct acagtagctt cacaaagtgc caaccataca 850  
catggcacca cttcacacag ggaaacgcaa aaggcatacc tgctggcagc 900  
gggggtcatt gtctgtatct atataatctg tgctgtcatc ctgatcctgg 950  
gcgtgcggga gcagagagaa ccctatgaag cccagcagtc tgagccaatc 1000  
gctacttcc ggggcctacg gctggctatg agccacggcc catacatcaa 1050  
acttattaact ggcttctctt tcacctcctt ggctttcatg ctggtggagg 1100  
ggaactttgt cttgttttgc acctacacct tgggcttccg caatgaattc 1150  
cagaatctac tcctggccat catgctctcg gccactttaa ccattcccat 1200  
ctggcagtggt ttcttgacct gggttgccaa gaagacagct gtatatgttg 1250

ggatctcatc agcagtgcca tttctcatct tgggtggcct catggagagt 1300  
 aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtgtggc 1350  
 agctgccttc ttactaccct ggtccatgct gcctgatgtc attgacgact 1400  
 tccatctgaa gcagcccccac ttccatggaa ccgagcccat cttcttctcc 1450  
 ttctatgtct tcttcaccaa gtttgctctt ggagtgtcac tgggcatttc 1500  
 taccctcagt ctggactttg cagggtagca gaccctgggc tgctcgcagc 1550  
 cggaacgtgt caagtttaca ctgaacatgc tcgtgacctt ggctcccata 1600  
 gttctcatcc tgctgggcct gctgctcttc aaaatgtacc ccattgatga 1650  
 ggagaggcgg cggcagaata agaaggcctt gcaggcactg agggacgagg 1700  
 ccagcagctc tggctgctca gaaacagact ccacagagct ggctagcatc 1750  
 ctctagggcc cgccacgttg cccgaagcca ccatgcagaa ggccacagaa 1800  
 gggatcagga cctgtctgcc ggcttgctga gcagctggac tgcaggtgct 1850  
 aggaagggaa ctgaagactc aaggaggtgg ccaggacac ttgctgtgct 1900  
 cactgtgggg ccggctgctc tgtggcctcc tgcctcccct ctgcctgcct 1950  
 gtggggccaa gccctggggc tgccactgtg aatatgcaa ggactgatcg 2000  
 ggcttagccc ggaacactaa tgtagaaacc ttttttttac agagcctaata 2050  
 taataactta atgactgtgt acatagcaat gtgtgtgtat gtatatgtct 2100  
 gtgagctatt aatgttatta attttcataa aagctggaaa gc 2142

<210> 20  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Trp Leu Arg Trp Ala Leu Ser Leu Pro Pro Ser Ser Cys Leu  
 1 5 10 15  
 Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
 20 25 30  
 Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
 35 40 45  
 Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
 50 55 60  
 Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
 65 70 75  
 Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
 80 85 90  
 Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
 95 100 105

Glu	Arg	Asp	Ser	Ala	Thr	Ala	Tyr	Arg	Met	Thr	Val	Glu	Val	Leu	110	115	120
Gly	Thr	Val	Leu	Gly	Thr	Ala	Ile	Gln	Gly	Gln	Ile	Val	Gly	Gln	125	130	135
Ala	Asp	Thr	Pro	Cys	Phe	Gln	Asp	Phe	Asn	Ser	Ser	Thr	Val	Ala	140	145	150
Ser	Gln	Ser	Ala	Asn	His	Thr	His	Gly	Thr	Thr	Ser	His	Arg	Glu	155	160	165
Thr	Gln	Lys	Ala	Tyr	Leu	Leu	Ala	Ala	Gly	Val	Ile	Val	Cys	Ile	170	175	180
Tyr	Ile	Ile	Cys	Ala	Val	Ile	Leu	Ile	Leu	Gly	Val	Arg	Glu	Gln	185	190	195
Arg	Glu	Pro	Tyr	Glu	Ala	Gln	Gln	Ser	Glu	Pro	Ile	Ala	Tyr	Phe	200	205	210
Arg	Gly	Leu	Arg	Leu	Val	Met	Ser	His	Gly	Pro	Tyr	Ile	Lys	Leu	215	220	225
Ile	Thr	Gly	Phe	Leu	Phe	Thr	Ser	Leu	Ala	Phe	Met	Leu	Val	Glu	230	235	240
Gly	Asn	Phe	Val	Leu	Phe	Cys	Thr	Tyr	Thr	Leu	Gly	Phe	Arg	Asn	245	250	255
Glu	Phe	Gln	Asn	Leu	Leu	Leu	Ala	Ile	Met	Leu	Ser	Ala	Thr	Leu	260	265	270
Thr	Ile	Pro	Ile	Trp	Gln	Trp	Phe	Leu	Thr	Arg	Phe	Gly	Lys	Lys	275	280	285
Thr	Ala	Val	Tyr	Val	Gly	Ile	Ser	Ser	Ala	Val	Pro	Phe	Leu	Ile	290	295	300
Leu	Val	Ala	Leu	Met	Glu	Ser	Asn	Leu	Ile	Ile	Thr	Tyr	Ala	Val	305	310	315
Ala	Val	Ala	Ala	Gly	Ile	Ser	Val	Ala	Ala	Ala	Phe	Leu	Leu	Pro	320	325	330
Trp	Ser	Met	Leu	Pro	Asp	Val	Ile	Asp	Asp	Phe	His	Leu	Lys	Gln	335	340	345
Pro	His	Phe	His	Gly	Thr	Glu	Pro	Ile	Phe	Phe	Ser	Phe	Tyr	Val	350	355	360
Phe	Phe	Thr	Lys	Phe	Ala	Ser	Gly	Val	Ser	Leu	Gly	Ile	Ser	Thr	365	370	375
Leu	Ser	Leu	Asp	Phe	Ala	Gly	Tyr	Gln	Thr	Arg	Gly	Cys	Ser	Gln	380	385	390
Pro	Glu	Arg	Val	Lys	Phe	Thr	Leu	Asn	Met	Leu	Val	Thr	Met	Ala	395	400	405
Pro	Ile	Val	Leu	Ile	Leu	Leu	Gly	Leu	Leu	Leu	Phe	Lys	Met	Tyr	410	415	420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
455

<210> 21  
<211> 571  
<212> DNA  
<213> Homo sapiens

<400> 21  
gggaaacgca aaaggcatatc ctgctggcag cgggggtcat tgtctgtatc 50  
tatataatct gtgctgtcat cctgatcctg ggcggtcgagg agcagagaga 100  
accctatgaa gccagcagct ctgagccaat cgcctacttc cggggcctac 150  
ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
ttcacctcct tggctttcat gctgggtggag gggaaactttg tcttggtttg 250  
cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctctgggcca 300  
tcatgctctc ggccacttta accattccca totggcagtg gttcttgacc 350  
cggtttgga agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
atttctcatc ttgggtggcc tcattggagag taacctcatc attacatatg 450  
cggtagctgt ggcagctggc atcagtggtg cagctgcctt cttactaccc 500  
tgggtccatgc tgctgatgt cattgacgac ttccatctga agcagcccca 550  
cttccatgga accgagccca t 571

<210> 22  
<211> 1173  
<212> DNA  
<213> Homo sapiens

<400> 22  
ggggcttcgg cgccagcggc cagcgtagt cggctctgga aggatttaca 50  
aaagggtcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
aaacagaaaa cctggttagaa atgtggtggt ttccagcaagg cctcagtttc 150  
cttccttcag ccttgtaat ttggacatct gctgctttca tattttcata 200  
cattactgca gtaaacctcc accatataga cccggcttta ccttatatca 250  
gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
aatattgagg cagttttatg cattgctacc atttatgttc gttataagca 350  
agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
ctggccttgt acttggaata ctgagttggt taggactttc tattgtggca 450



aacttccaga aaacaaccct ttttgctgca catgtaagtg gagctgtgct 500  
tacctttggt atggggtcat tatatatggt tgttcagacc atcctttcct 550  
accaaagtcg gcccaaaatc catggcaaac aagtcttctg gatcagactg 600  
ttgttggtta tctggtgtgg agtaagtgcg cttagcatgc tgacttgctc 650  
atcagttttg cacagtggca attttgggac tgatttagaa cagaaactcc 700  
attggaaccc cgaggacaaa gggtatgtgc ttcacatgat cactactgca 750  
gcagaatggt ctatgtcatt ttcttctttt gggtttttcc tgacttacat 800  
tcgtgatttt cagaaaattt ctttaagggt ggaagccaat ttacatggat 850  
taaccctcta tgacactgca ccttgcccta ttaacaatga acgaacacgg 900  
ctactttcca gagatatattg atgaaaggat aaaatatttc tgtaatgatt 950  
atgattctca gggattgggg aaagggtcac agaagttgct tattcttctc 1000  
tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
atcatcaaga agactattaa aaacacctat gcctataact ttttatctca 1150  
gaaaataaag tcaaaagact atg 1173

<210> 23  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 23  
Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
1 5 10 15  
Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
20 25 30  
Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
35 40 45  
Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
50 55 60  
Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
65 70 75  
Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
80 85 90  
Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
95 100 105  
Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
110 115 120  
His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
125 130 135

Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile	
				140					145					150	
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp	
				155					160					165	
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu	
				170					175					180	
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp	
				185					190					195	
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala	
				200					205					210	
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr	
				215					220					225	
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn	
				230					235					240	
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn	
				245					250					255	
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile					
				260					265						

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
 cggacgcttg ggcngcgcca gcgccagcg ctagtcggtc tggtaagtgc 50  
 ctgatgccga gttcgcgtctc tcgggtcttt tcctgggtccc aggcaaagcg 100  
 gagcggagat cctcaaacgg cctagtgttt cgcgcttccg gagaaaatca 150  
 gcggtctaataa taattcctct ggtttgttga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtac acgttcctgt tgagtacacg 250  
 ttctgttga tttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccgg 450  
 gctttacott atatcagtga cactggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg tttagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
cccacgcgtc cgcccgccgc tgcgtcccg agtgcaagt agcttctcgg 50  
ctgccccgcg ggccggggtg cggagccgac atgcgccgc ttctcggcct 100  
ccttctggtc ttgcgggt gcacctcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tcccctccga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcgggcgcta cctctacaaa cagggtttg ccatcccggt ctcagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccatggctgg ggcttctgct 400  
gtgctgtgtg ttgacctcgg tgggtgccac atgctgtac ctgctctcca 450  
gtatttttgg caaacagttg gtggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaagggtga ggagaacaga aacagcttgt ttttttctt 550  
attgtttttg agacttttcc ccatgacacc aaactgggtc ttgaacctct 600  
cggccccaat tctgaacatt cccatcgtgc agttcttctt ctcagttctt 650  
atcggtttga tcccatataa ttcatctgt gtgcagacag ggtccatcct 700  
gtcaacccta acctctctgg atgctctttt ctctcgggac actgtcttta 750  
agctgttggc cattgccatg gtggcattaa ttcttggaa cctcattaaa 800  
aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaata 850  
tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgtggtcctc taaagccct 950  
cattgttttt gattgccttc tataggatgt gtggacactg tgcataatg 1000

tgcagtgtct tttcagaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgacgt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28

<211> 264

<212> PRT

<213> Homo sapiens

<400> 28

Met	Arg	Pro	Leu	Leu	Gly	Leu	Leu	Leu	Val	Phe	Ala	Gly	Cys	Thr	1	5	10	15
Phe	Ala	Leu	Tyr	Leu	Leu	Ser	Thr	Arg	Leu	Pro	Arg	Gly	Arg	Arg	20	25	30	
Leu	Gly	Ser	Thr	Glu	Glu	Ala	Gly	Gly	Arg	Ser	Leu	Trp	Phe	Pro	35	40	45	
Ser	Asp	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Ser	Glu	Val	Leu	Arg	Glu	50	55	60	
Tyr	Arg	Lys	Glu	His	Gln	Ala	Tyr	Val	Phe	Leu	Leu	Phe	Cys	Gly	65	70	75	
Ala	Tyr	Leu	Tyr	Lys	Gln	Gly	Phe	Ala	Ile	Pro	Gly	Ser	Ser	Phe	80	85	90	
Leu	Asn	Val	Leu	Ala	Gly	Ala	Leu	Phe	Gly	Pro	Trp	Leu	Gly	Leu	95	100	105	
Leu	Leu	Cys	Cys	Val	Leu	Thr	Ser	Val	Gly	Ala	Thr	Cys	Cys	Tyr	110	115	120	
Leu	Leu	Ser	Ser	Ile	Phe	Gly	Lys	Gln	Leu	Val	Val	Ser	Tyr	Phe	125	130	135	
Pro	Asp	Lys	Val	Ala	Leu	Leu	Gln	Arg	Lys	Val	Glu	Glu	Asn	Arg	140	145	150	
Asn	Ser	Leu	Phe	Phe	Phe	Leu	Leu	Phe	Leu	Arg	Leu	Phe	Pro	Met	155	160	165	
Thr	Pro	Asn	Trp	Phe	Leu	Asn	Leu	Ser	Ala	Pro	Ile	Leu	Asn	Ile	170	175	180	
Pro	Ile	Val	Gln	Phe	Phe	Phe	Ser	Val	Leu	Ile	Gly	Leu	Ile	Pro	185	190	195	
Tyr	Asn	Phe	Ile	Cys	Val	Gln	Thr	Gly	Ser	Ile	Leu	Ser	Thr	Leu	200	205	210	

Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu  
 215 220 225

Leu Ala Ile Ala Met Val Ala Leu Ile Pro Gly Thr Leu Ile Lys  
 230 235 240

Lys Phe Ser Gln Lys His Leu Gln Leu Asn Glu Thr Ser Thr Ala  
 245 250 255

Asn His Ile His Ser Arg Lys Asp Thr  
 260

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgaggcggg aggagcccga gggggcgcgga gccccgcatg aatcattgta 50  
 gtcaatcatt ttccagttct cagccgctca gttgtgatca agggacacgt 100  
 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatottgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggt gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctccagagacc cccccgcag tatcctctcc ttatagttgt gtataagggt 350  
 ctcgcaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccacacatt aggtctgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattcctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aaggtgatgc tcctggaaga cggcccaagg aaatttgaga ggctccatcc 700  
 actggtgatc aagacgggaa agcccctgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtacctgag ggcacagaag gcttctctga agggtttttc 800  
 gccaaagtgt ggcgtgctt tcctgagcgg tggttcccat ttccttatcc 850  
 atggaggaga cctctgaaca gatcacaat gttacgtgag ctttttctg 900  
 ttttactca cctgccattt ccaaaagatg cctctttaa caagtgtctc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgcctga 1000  
 cctatttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgccg aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
 gatatcggct atgtcgacac caccactgg aaggtctacg ttatagccag 1150

aggggtccag cctttggtca tctgcatgg aaccgctttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggt 1250  
 gaaaggggaa aaataaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser  
 1 5 10 15  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met  
 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
				260					265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
				275					280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
				290					295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
				305					310					315
Ile	Gly	Tyr	Val	Asp	Thr	Thr	His	Trp	Lys	Val	Tyr	Val	Ile	Ala
				320					325					330
Arg	Gly	Val	Gln	Pro	Leu	Val	Ile	Cys	Asp	Gly	Thr	Ala	Phe	Ser
				335					340					345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
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 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gtttgtgata aggttctcgc aaccttggga 400  
 ttaatcttgc tactgccta ctttgtgatt caacctttca gccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
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 ccactgatga ggcagggtcc ccacttgagc ctgcagcagc tgcagcagct 100  
 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcaatgggg actgccctcc ctgccaccca 200  
 ccaatggcag cccaccttc tttgaagact tccaggcttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtgcgtg ggccttccag gagctggtgc tggaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcactcc atggccctgc tgcactgggg ggcgctgtgg 550  
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 ccccgctgg aaactgtcca gcgcgagac atattcacgc atgcgtctga 650  
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 cgagtgccag ctggtgacgg tagtgccgt ggtcccaggg ctgctggagg 950  
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 gccatcgggt gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
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 acaoctacac gagtggatcg acctcatctt tggctacaag cagcgggggc 2000  
 cagccgccga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
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 gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
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gttaccacct cagggattgg cgggcggaag tcccgccct cgccggctga 3500

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<210> 33

<211> 1003

<212> PRT

<213> Homo sapiens

<400> 33

Met	Ser	Gln	Phe	Glu	Met	Asp	Thr	Tyr	Ala	Lys	Ser	His	Asp	Leu
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Met	Ser	Gly	Phe	Trp	Asn	Ala	Cys	Tyr	Asp	Met	Leu	Met	Ser	Ser
				20					25					30
Gly	Gln	Arg	Arg	Gln	Trp	Glu	Arg	Ala	Gln	Ser	Arg	Arg	Ala	Phe
				35					40					45
Gln	Glu	Leu	Val	Leu	Glu	Pro	Ala	Gln	Arg	Arg	Ala	Arg	Leu	Glu
				50					55					60
Gly	Leu	Arg	Tyr	Thr	Ala	Val	Leu	Lys	Gln	Gln	Ala	Thr	Gln	His
				65					70					75
Ser	Met	Ala	Leu	Leu	His	Trp	Gly	Ala	Leu	Trp	Arg	Gln	Leu	Ala
				80					85					90
Ser	Pro	Cys	Gly	Ala	Trp	Ala	Leu	Arg	Asp	Thr	Pro	Ile	Pro	Arg
				95					100					105
Trp	Lys	Leu	Ser	Ser	Ala	Glu	Thr	Tyr	Ser	Arg	Met	Arg	Leu	Lys
				110					115					120
Leu	Val	Pro	Asn	His	His	Phe	Asp	Pro	His	Leu	Glu	Ala	Ser	Ala
				125					130					135
Leu	Arg	Asp	Asn	Leu	Gly	Glu	Val	Pro	Leu	Thr	Pro	Thr	Glu	Glu
				140					145					150
Ala	Ser	Leu	Pro	Leu	Ala	Val	Thr	Lys	Glu	Ala	Lys	Val	Ser	Thr
				155					160					165
Pro	Pro	Glu	Leu	Leu	Gln	Glu	Asp	Gln	Leu	Gly	Glu	Asp	Glu	Leu
				170					175					180
Ala	Glu	Leu	Glu	Thr	Pro	Met	Glu	Ala	Ala	Glu	Leu	Asp	Glu	Gln
				185					190					195
Arg	Glu	Lys	Leu	Val	Leu	Ser	Ala	Glu	Cys	Gln	Leu	Val	Thr	Val
				200					205					210
Val	Ala	Val	Val	Pro	Gly	Leu	Leu	Glu	Val	Thr	Thr	Gln	Asn	Val
				215					220					225
Tyr	Phe	Tyr	Asp	Gly	Ser	Thr	Glu	Arg	Val	Glu	Thr	Glu	Glu	Gly
				230					235					240
Ile	Gly	Tyr	Asp	Phe	Arg	Arg	Pro	Leu	Ala	Gln	Leu	Arg	Glu	Val
				245					250					255
His	Leu	Arg	Arg	Phe	Asn	Leu	Arg	Arg	Ser	Ala	Leu	Glu	Leu	Phe
				260					265					270

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	
				275					280					285	
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	
				290					295					300	
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	
				305					310					315	
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	
				320					325					330	
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	
				335					340					345	
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	
				350					355					360	
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	
				365					370					375	
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	
				380					385					390	
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	
				395					400					405	
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	
				410					415					420	
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	
				425					430					435	
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	
				440					445					450	
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	
				455					460					465	
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	
				470					475					480	
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	
				485					490					495	
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	
				500					505					510	
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	
				515					520					525	
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	
				530					535					540	
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	
				545					550					555	
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	
				560					565					570	
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	
				575					580					585	

Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys	590	595	600
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln	605	610	615
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala	620	625	630
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe	635	640	645
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val	650	655	660
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp	665	670	675
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met	680	685	690
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro	695	700	705
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly	710	715	720
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val	725	730	735
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His	740	745	750
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr	755	760	765
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu	770	775	780
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val	785	790	795
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile	800	805	810
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr	815	820	825
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu	830	835	840
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala	845	850	855
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu	860	865	870
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val	875	880	885
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr	890	895	900

Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln
				905					910					915
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala
				920					925					930
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr
				935					940					945
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu
				950					955					960
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln
				965					970					975
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val
				980					985					990
Ser	Ser	Gly	Glu	Thr	Glu	Tyr	Asn	Pro	Thr	Glu	Ala	Arg		
				995					1000					

<210> 34

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 34

tgactgcact accccgtggc aagctgttga gccagctcag ctg 43

<210> 35

<211> 1395

<212> DNA

<213> Homo sapiens

<400> 35

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tgtgctgttt ccagggctac tcatccaaag gcctaatacca acgttctgtc 150  
ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
ggtactggcc ctgggccaat gcgtcctcgc tggagccttt gcctccttct 250  
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cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400  
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<210> 36

<211> 321

<212> PRT

<213> Homo sapiens

<400> 36

Arg	Thr	Arg	Gly	Arg	Thr	Arg	Gly	Gly	Cys	Glu	Lys	Val	Pro	Ile
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Asn	Thr	Ser	Cys	Asn	Pro	Thr	Ala	His	Leu	Val	Asn	Ser	Ser	Cys
				20					25					30

Pro	Gly	Leu	Met	Cys	Val	Phe	Gln	Gly	Tyr	Ser	Ser	Lys	Gly	Leu
				35					40					45

Ile	Gln	Arg	Ser	Val	Phe	Asn	Leu	Gln	Ile	Tyr	Gly	Val	Leu	Gly
				50					55					60

Leu	Phe	Trp	Thr	Leu	Asn	Trp	Val	Leu	Ala	Leu	Gly	Gln	Cys	Val
				65					70					75

Leu	Ala	Gly	Ala	Phe	Ala	Ser	Phe	Tyr	Trp	Ala	Phe	His	Lys	Pro
				80					85					90

Gln	Asp	Ile	Pro	Thr	Phe	Pro	Leu	Ile	Ser	Ala	Phe	Ile	Arg	Thr
				95					100					105

Leu	Arg	Tyr	His	Thr	Gly	Ser	Leu	Ala	Phe	Gly	Ala	Leu	Ile	Leu
				110					115					120

Thr	Leu	Val	Gln	Ile	Ala	Arg	Val	Ile	Leu	Glu	Tyr	Ile	Asp	His
				125					130					135

Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys	
				140					145					150	
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe	
				155					160					165	
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn	
				170					175					180	
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn	
				185					190					195	
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu	
				200					205					210	
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser	
				215					220					225	
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe	
				230					235					240	
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser	
				245					250					255	
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe	
				260					265					270	
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu	
				275					280					285	
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys	
				290					295					300	
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp	
				305					310					315	
Asn	Lys	Lys	Arg	Lys	Lys										
				320											

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtottttaacc agccccggga tgcg 24

<210> 39  
 <211> 50

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaatacc aaogttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
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tccggccgcc gtggctatgt tcgtgtccga tttccgcaa gagttctacg 100  
aggtggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttcagtg gtgaccacgt 200  
gcaatatacg ctggttccag tttctgggtg gcaagaactt gaaactgcat 250  
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gctaattgtag acctattgga tattcttcaa cctgatgaag aactatatt 350  
ctttgtgtgt gactcccata ggccagtcaa tgcgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aatgacagt gatgggtcag agccttctga gaagcgaca cggttagaag 550  
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aggagttcct tgcagacatg ggtcttccc tgaagcaggt gaagcagaag 1050  
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gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



gccaccatgt ctttgatgga gagccccgag aaggatggct cagggacaga 1250  
 tcatttcac caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtacatgg cctggaactc gccaaagaagc agctgcgagc caccagcag 1350  
 accattgcc gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
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 35 40 45  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr  
 50 55 60  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile  
 65 70 75  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp  
 80 85 90  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn  
 95 100 105  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys  
 110 115 120  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg  
 125 130 135  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly  
 140 145 150  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val  
 155 160 165  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg  
 170 175 180  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly  
 185 190 195  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser  
 200 205 210  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr  
 215 220 225  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr  
 230 235 240  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

245										250					255				
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Ser	Phe	Glu	Tyr	Asp	Leu	Arg	Leu	Val		Leu	Tyr	Gln	His	Trp	Ser				
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Leu	His	Asp	Ser	Leu	Cys	Asn	Thr	Ser		Tyr	Thr	Ala	Ala	Arg	Phe				
				290						295					300				
Lys	Leu	Trp	Ser	Val	His	Gly	Gln	Lys		Arg	Leu	Gln	Glu	Phe	Leu				
				305						310					315				
Ala	Asp	Met	Gly	Leu	Pro	Leu	Lys	Gln		Val	Lys	Gln	Lys	Phe	Gln				
				320						325					330				
Ala	Met	Asp	Ile	Ser	Leu	Lys	Glu	Asn		Leu	Arg	Glu	Met	Ile	Glu				
				335						340					345				
Glu	Ser	Ala	Asn	Lys	Phe	Gly	Met	Lys		Asp	Met	Arg	Val	Gln	Thr				
				350						355					360				
Phe	Ser	Ile	His	Phe	Gly	Phe	Lys	His		Lys	Phe	Leu	Ala	Ser	Asp				
				365						370					375				
Val	Val	Phe	Ala	Thr	Met	Ser	Leu	Met		Glu	Ser	Pro	Glu	Lys	Asp				
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Gly	Ser	Gly	Thr	Asp	His	Phe	Ile	Gln		Ala	Leu	Asp	Ser	Leu	Ser				
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Arg	Ser	Asn	Leu	Asp	Lys	Leu	Tyr	His		Gly	Leu	Glu	Leu	Ala	Lys				
				410						415					420				
Lys	Gln	Leu	Arg	Ala	Thr	Gln	Gln	Thr		Ile	Ala	Ser	Cys	Leu	Cys				
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Thr	Asn	Leu	Val	Ile	Ser	Gln	Gly	Pro		Phe	Leu	Tyr	Cys	Ser	Leu				
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Met	Glu	Gly	Thr	Pro	Asp	Val	Met	Leu		Phe	Ser	Arg	Pro	Ala	Ser				
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Leu	Ser	Leu	Leu	Ser	Lys	His	Leu	Leu		Lys	Ser	Phe	Val	Cys	Ser				
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Thr	Lys	Asn	Arg	Arg	Cys	Lys	Leu	Leu		Pro	Leu	Val	Met	Ala	Ala				
				485						490					495				
Pro	Leu	Ser	Met	Glu	His	Gly	Thr	Val		Thr	Val	Val	Gly	Ile	Pro				
				500						505					510				
Pro	Glu	Thr	Asp	Ser	Ser	Asp	Arg	Lys		Asn	Phe	Phe	Gly	Arg	Ala				
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Phe	Glu	Lys	Ala	Ala	Glu	Ser	Thr	Ser		Ser	Arg	Met	Leu	His	Asn				
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His	Phe	Asp	Leu	Ser	Val	Ile	Glu	Leu		Lys	Ala	Glu	Asp	Arg	Ser				
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Lys	Phe	Leu	Asp	Ala	Leu	Ile	Ser	Leu		Leu	Ser								

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

<400> 42  
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 ctcttcgtgg octoggangt ggatgctctg tgtgcgtgca agatccttca 150  
 ggccctgttc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
 tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
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 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46  
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tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
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aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
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agggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
agggagggtc cccaagggga gcctggccct cagggcagca agggtgacaa 600  
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 tcattcatta aacactgagc actcactctg tgctgggtcc cgggaagggt 2000  
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taaagaatgc tgtctcctct tggaaaaaaa aaaaaaaaaa 3089

<210> 47

<211> 259

<212> PRT

<213> Homo sapiens

<220>

<221> Signal Peptide

<222> 1-20

<223> Signal Peptide

<220>

<221> N-glycosylation Site

<222> 72-75

<223> N-glycosylation Site

<220>

<221> Clq Domain Proteins

<222> 144-178, 78-111, 84-117

<223> Clq Domain Proteins

<400> 47

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				20					25					30
Arg	Ala	Val	Ala	Ser	Gly	Cys	Gln	Arg	Cys	Cys	Asp	Ser	Glu	Asp
				35					40					45
Pro	Leu	Asp	Pro	Ala	His	Val	Ser	Ser	Ala	Ser	Ser	Ser	Gly	Arg
				50					55					60
Pro	His	Ala	Leu	Pro	Glu	Ile	Arg	Pro	Tyr	Ile	Asn	Ile	Thr	Ile
				65					70					75
Leu	Lys	Gly	Asp	Lys	Gly	Asp	Pro	Gly	Pro	Met	Gly	Leu	Pro	Gly
				80					85					90
Tyr	Met	Gly	Arg	Glu	Gly	Pro	Gln	Gly	Glu	Pro	Gly	Pro	Gln	Gly
				95					100					105
Ser	Lys	Gly	Asp	Lys	Gly	Glu	Met	Gly	Ser	Pro	Gly	Ala	Pro	Cys
				110					115					120
Gln	Lys	Arg	Phe	Phe	Ala	Phe	Ser	Val	Gly	Arg	Lys	Thr	Ala	Leu
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His	Ser	Gly	Glu	Asp	Phe	Gln	Thr	Leu	Leu	Phe	Glu	Arg	Val	Phe
				140					145					150
Val	Asn	Leu	Asp	Gly	Cys	Phe	Asp	Met	Ala	Thr	Gly	Gln	Phe	Ala
				155					160					165
Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser
				170					175					180
Trp	Asn	Tyr	Lys	Glu	Thr	Tyr	Val	His	Ile	Met	His	Asn	Gln	Lys
				185					190					195
Glu	Ala	Val	Ile	Leu	Tyr	Ala	Gln	Pro	Ser	Glu	Arg	Ser	Ile	Met

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Gln Ser Gln Ser Val Met Leu Asp Leu Ala Tyr Gly Asp Arg Val			
	215	220	225
Trp Val Arg Leu Phe Lys Arg Gln Arg Glu Asn Ala Ile Tyr Ser			
	230	235	240
Asn Asp Phe Asp Thr Tyr Ile Thr Phe Ser Gly His Leu Ile Lys			
	245	250	255
Ala Glu Asp Asp			

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
 ccagacgctg ctcttcgaaa gggtc 25

<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
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<210> 51  
 <211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
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 ccgcctcccg ggacagaaga tgtgctccag ggtccctctg ctgctgccgc 150  
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 tttaggaaca tgttttgctt ttttaaaata tatatattta taagagatcc 2650  
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 aaaagatgaa gtgtgaaa 2768

<210> 52  
 <211> 673  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
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 35 40 45  
 Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe  
 50 55 60  
 Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu  
 65 70 75  
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
 80 85 90  
 Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

95										100					105				
Asp	Leu	Thr	Ala	Asn	Arg	Leu	His	Glu	Ile	Thr	Asn	Glu	Thr	Phe					
				110					115					120					
Arg	Gly	Leu	Arg	Arg	Leu	Glu	Arg	Leu	Tyr	Leu	Gly	Lys	Asn	Arg					
				125					130					135					
Ile	Arg	His	Ile	Gln	Pro	Gly	Ala	Phe	Asp	Thr	Leu	Asp	Arg	Leu					
				140					145					150					
Leu	Glu	Leu	Lys	Leu	Gln	Asp	Asn	Glu	Leu	Arg	Ala	Leu	Pro	Pro					
				155					160					165					
Leu	Arg	Leu	Pro	Arg	Leu	Leu	Leu	Leu	Asp	Leu	Ser	His	Asn	Ser					
				170					175					180					
Leu	Leu	Ala	Leu	Glu	Pro	Gly	Ile	Leu	Asp	Thr	Ala	Asn	Val	Glu					
				185					190					195					
Ala	Leu	Arg	Leu	Ala	Gly	Leu	Gly	Leu	Gln	Gln	Leu	Asp	Glu	Gly					
				200					205					210					
Leu	Phe	Ser	Arg	Leu	Arg	Asn	Leu	His	Asp	Leu	Asp	Val	Ser	Asp					
				215					220					225					
Asn	Gln	Leu	Glu	Arg	Val	Pro	Pro	Val	Ile	Arg	Gly	Leu	Arg	Gly					
				230					235					240					
Leu	Thr	Arg	Leu	Arg	Leu	Ala	Gly	Asn	Thr	Arg	Ile	Ala	Gln	Leu					
				245					250					255					
Arg	Pro	Glu	Asp	Leu	Ala	Gly	Leu	Ala	Ala	Leu	Gln	Glu	Leu	Asp					
				260					265					270					
Val	Ser	Asn	Leu	Ser	Leu	Gln	Ala	Leu	Pro	Gly	Asp	Leu	Ser	Gly					
				275					280					285					
Leu	Phe	Pro	Arg	Leu	Arg	Leu	Leu	Ala	Ala	Ala	Arg	Asn	Pro	Phe					
				290					295					300					
Asn	Cys	Val	Cys	Pro	Leu	Ser	Trp	Phe	Gly	Pro	Trp	Val	Arg	Glu					
				305					310					315					
Ser	His	Val	Thr	Leu	Ala	Ser	Pro	Glu	Glu	Thr	Arg	Cys	His	Phe					
				320					325					330					
Pro	Pro	Lys	Asn	Ala	Gly	Arg	Leu	Leu	Leu	Glu	Leu	Asp	Tyr	Ala					
				335					340					345					
Asp	Phe	Gly	Cys	Pro	Ala	Thr	Thr	Thr	Thr	Ala	Thr	Val	Pro	Thr					
				350					355					360					
Thr	Arg	Pro	Val	Val	Arg	Glu	Pro	Thr	Ala	Leu	Ser	Ser	Ser	Leu					
				365					370					375					
Ala	Pro	Thr	Trp	Leu	Ser	Pro	Thr	Ala	Pro	Ala	Thr	Glu	Ala	Pro					
				380					385					390					
Ser	Pro	Pro	Ser	Thr	Ala	Pro	Pro	Thr	Val	Gly	Pro	Val	Pro	Gln					
				395					400					405					
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys					

410					415					420				
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Pro	Ser	Pro	Thr	Pro	Val	Thr	Pro	Arg	Pro	Pro	Arg	Ser	Leu	Thr
				455					460					465
Leu	Gly	Ile	Glu	Pro	Val	Ser	Pro	Thr	Ser	Leu	Arg	Val	Gly	Leu
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Gln	Arg	Tyr	Leu	Gln	Gly	Ser	Ser	Val	Gln	Leu	Arg	Ser	Leu	Arg
				485					490					495
Leu	Thr	Tyr	Arg	Asn	Leu	Ser	Gly	Pro	Asp	Lys	Arg	Leu	Val	Thr
				500					505					510
Leu	Arg	Leu	Pro	Ala	Ser	Leu	Ala	Glu	Tyr	Thr	Val	Thr	Gln	Leu
				515					520					525
Arg	Pro	Asn	Ala	Thr	Tyr	Ser	Val	Cys	Val	Met	Pro	Leu	Gly	Pro
				530					535					540
Gly	Arg	Val	Pro	Glu	Gly	Glu	Glu	Ala	Cys	Gly	Glu	Ala	His	Thr
				545					550					555
Pro	Pro	Ala	Val	His	Ser	Asn	His	Ala	Pro	Val	Thr	Gln	Ala	Arg
				560					565					570
Glu	Gly	Asn	Leu	Pro	Leu	Leu	Ile	Ala	Pro	Ala	Leu	Ala	Ala	Val
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Leu	Leu	Ala	Ala	Leu	Ala	Ala	Val	Gly	Ala	Ala	Tyr	Cys	Val	Arg
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Arg	Gly	Arg	Ala	Met	Ala	Ala	Ala	Ala	Gln	Asp	Lys	Gly	Gln	Val
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Gly	Pro	Gly	Ala	Gly	Pro	Leu	Glu	Leu	Glu	Gly	Val	Lys	Val	Pro
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Leu	Glu	Pro	Gly	Pro	Lys	Ala	Thr	Glu	Gly	Gly	Gly	Glu	Ala	Leu
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Pro	Ser	Gly	Ser	Glu	Cys	Glu	Val	Pro	Leu	Met	Gly	Phe	Pro	Gly
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 <213> Homo sapiens

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 35 40 45  
 Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
 50 55 60  
 Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
 65 70 75  
 Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
 80 85 90

Thr	Phe	Glu	Phe	Asn	Lys	Glu	Leu	Arg	Tyr	Leu	Asp	Leu	Ser	Asn	
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Asn	Arg	Leu	Lys	Ser	Val	Thr	Trp	Tyr	Leu	Leu	Ala	Gly	Leu	Arg	
				110					115					120	
Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
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Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
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Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
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His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
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Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
				185					190					195	
Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
				200					205					210	
Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
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Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
				230					235					240	
Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
				245					250					255	
Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
				260					265					270	
Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
				275					280					285	
Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
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Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
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Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
				320					325					330	
Leu	Thr	Ile	Ser	Asn	Ala	Gln	Met	Pro	His	Met	Leu	Phe	Pro	Asn	
				335					340					345	
Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
				350					355					360	
Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
				365					370					375	
Thr	Leu	Ile	Leu	Asn	Gly	Asn	Lys	Leu	Glu	Thr	Leu	Ser	Leu	Val	
				380					385					390	
Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
				395					400					405	

Gln Asn Leu Leu	Gln His Lys Asn Asp	Glu Asn Cys Ser Trp Pro	410	415	420
Glu Thr Val Val	Asn Met Asn Leu Ser	Tyr Asn Lys Leu Ser Asp	425	430	435
Ser Val Phe Arg	Cys Leu Pro Lys Ser	Ile Gln Ile Leu Asp Leu	440	445	450
Asn Asn Asn Gln	Ile Gln Thr Val Pro	Lys Glu Thr Ile His Leu	455	460	465
Met Ala Leu Arg	Glu Leu Asn Ile Ala	Phe Asn Phe Leu Thr Asp	470	475	480
Leu Pro Gly Cys	Ser His Phe Ser Arg	Leu Ser Val Leu Asn Ile	485	490	495
Glu Met Asn Phe	Ile Leu Ser Pro Ser	Leu Asp Phe Val Gln Ser	500	505	510
Cys Gln Glu Val	Lys Thr Leu Asn Ala	Gly Arg Asn Pro Phe Arg	515	520	525
Cys Thr Cys Glu	Leu Lys Asn Phe Ile	Gln Leu Glu Thr Tyr Ser	530	535	540
Glu Val Met Met	Val Gly Trp Ser Asp	Ser Tyr Thr Cys Glu Tyr	545	550	555
Pro Leu Asn Leu	Arg Gly Thr Arg Leu	Lys Asp Val His Leu His	560	565	570
Glu Leu Ser Cys	Asn Thr Ala Leu Leu	Ile Val Thr Ile Val Val	575	580	585
Ile Met Leu Val	Leu Gly Leu Ala Val	Ala Phe Cys Cys Leu His	590	595	600
Phe Asp Leu Pro	Trp Tyr Leu Arg Met	Leu Gly Gln Cys Thr Gln	605	610	615
Thr Trp His Arg	Val Arg Lys Thr Thr	Gln Glu Gln Leu Lys Arg	620	625	630
Asn Val Arg Phe	His Ala Phe Ile Ser	Tyr Ser Glu His Asp Ser	635	640	645
Leu Trp Val Lys	Asn Glu Leu Ile Pro	Asn Leu Glu Lys Glu Asp	650	655	660
Gly Ser Ile Leu	Ile Cys Leu Tyr Glu	Ser Tyr Phe Asp Pro Gly	665	670	675
Lys Ser Ile Ser	Glu Asn Ile Val Ser	Phe Ile Glu Lys Ser Tyr	680	685	690
Lys Ser Ile Phe	Val Leu Ser Pro Asn	Phe Val Gln Asn Glu Trp	695	700	705
Cys His Tyr Glu	Phe Tyr Phe Ala His	His Asn Leu Phe His Glu	710	715	720



Asn Ser Asp His	Ile Ile Leu Ile Leu	Leu Glu Pro Ile Pro	Phe
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Tyr Cys Ile Pro	Thr Arg Tyr His Lys	Leu Lys Ala Leu Leu	Glu
740		745	750
Lys Lys Ala Tyr	Leu Glu Trp Pro Lys	Asp Arg Arg Lys Cys	Gly
755		760	765
Leu Phe Trp Ala	Asn Leu Arg Ala Ala	Ile Asn Val Asn Val	Leu
770		775	780
Ala Thr Arg Glu	Met Tyr Glu Leu Gln	Thr Phe Thr Glu Leu	Asn
785		790	795
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 ccattatctc cgtagaaggc attaacatg acatccgaac agccaacgat 2350  
 ggggattact ggcgcctcct gaaccctgga gagtatgttg tcacagcaaa 2400  
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 acaaataaat tctgtgttct ttgacaata gcgtcattgc caagtgcaca 3150  
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 aaaaaaaaaa aaaaaaaaaa aa 3772

<210> 62  
 <211> 756  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
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 20 25 30  
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 35 40 45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
 50 55 60  
 Leu Pro Ala Gly Pro Gly Glu Glu Trp Glu Arg Arg Pro Gln Glu  
 65 70 75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
 80 85 90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Pro Gly Lys His Ser  
 95 100 105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
 110 115 120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
 125 130 135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
 140 145 150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
 155 160 165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
 170 175 180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile



500					505					510				
Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val	Val	Ala	Tyr
				515					520					525
Pro	Tyr	Asp	Leu	Val	Arg	Ser	Pro	Trp	Lys	Thr	Gln	Glu	His	Thr
				530					535					540
Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser	Tyr
				545					550					555
Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys
				560					565					570
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala
				575					580					585
Ser	Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu
				590					595					600
His	Thr	Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys
				605					610					615
Tyr	Pro	His	Glu	Ser	Gln	Leu	Pro	Glu	Glu	Trp	Glu	Asn	Asn	Arg
				620					625					630
Glu	Ser	Leu	Ile	Val	Phe	Met	Glu	Gln	Val	His	Arg	Gly	Ile	Lys
				635					640					645
Gly	Leu	Val	Arg	Asp	Ser	His	Gly	Lys	Gly	Ile	Pro	Asn	Ala	Ile
				650					655					660
Ile	Ser	Val	Glu	Gly	Ile	Asn	His	Asp	Ile	Arg	Thr	Ala	Asn	Asp
				665					670					675
Gly	Asp	Tyr	Trp	Arg	Leu	Leu	Asn	Pro	Gly	Glu	Tyr	Val	Val	Thr
				680					685					690
Ala	Lys	Ala	Glu	Gly	Phe	Thr	Ala	Ser	Thr	Lys	Asn	Cys	Met	Val
				695					700					705
Gly	Tyr	Asp	Met	Gly	Ala	Thr	Arg	Cys	Asp	Phe	Thr	Leu	Ser	Lys
				710					715					720
Thr	Asn	Met	Ala	Arg	Ile	Arg	Glu	Ile	Met	Glu	Lys	Phe	Gly	Lys
				725					730					735
Gln	Pro	Val	Ser	Leu	Pro	Ala	Arg	Arg	Leu	Lys	Leu	Arg	Gly	Arg
				740					745					750
Lys	Arg	Arg	Gln	Arg	Gly									
				755										

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gtttctcaatg agctacccgt cccc 24

<210> 64  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
cgcgatgtag tggaactcgg gctc 24

<210> 65  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 65  
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<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
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cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150  
cagctccagc tccaggtcgg gctccagctc cagccgcagc ttaggcagcg 200  
gaggttctgt gtcccagttg ttttccaatt tcacgggctc cgtggatgac 250  
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ggacagagtg gaacgcttgg aattcacagc tcatgttctt tctcagaagt 350  
ttgagaaaga actttctaaa gtgagggaat atgtccaatt aattagtgtg 400  
tatgaaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tcttacactg aactggactt cgagctgata aaggtagaag 500  
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aaagatcaaa acaccctgt cgtccacct cctcccactc caggagctg 750  
tggtcatggt ggtgtggtga acatcagcaa accgtctgtg gttcagctca 800  
actggagagg gttttcttat ctatatggtg cttggggtag ggattactct 850  
cccagcatc caaacaagg actgtattgg gtggcgccat tgaatacaga 900

tgggagactg ttggagtatt atagactgta caacacactg gatgatttgc 950  
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 ggtacagcag tttacaacaa caacatgtac gtcaacatgt acaacaccgg 1050  
 gaatattgcc agagttaacc tgaccaccaa cacgattgct gtgactcaaa 1100  
 ctctccctaa tgotgocctat aataaccgct tttcatatgc taatgttgct 1150  
 tggcaagata ttgactttgc tgtggatgag aatggattgt gggttattta 1200  
 ttcaactgaa gccagcactg gtaacatggg gattagtaaa ctcaatgaca 1250  
 ccacacttca ggtgctaaac acttgggtata ccaagcagta taaaccatct 1300  
 gcttctaaag ccttcatggg atgtgggggt ctgtatgcca cccgtactat 1350  
 gaacaccaga acagaagaga ttttttacta ttatgacaca aacacagggg 1400  
 aagagggcaa actagacatt gtaatgcata agatgcagga aaaagtgcag 1450  
 agcattaact ataacccttt tgaccagaaa ctttatgtct ataacgatgg 1500  
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 tccatgcctg gaagaaacct ggggacttag ttaggtagat taatatctgg 2000  
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aaaataaatg attaaaatgt gctttgaaaa aaaaaaaaaa aaaaaaaaaa 2850  
aaaa 2854

<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
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Gly Gln Ala Ala Gly Asp Leu Gly Asp Val Gly Pro Pro Ile Pro  
20 25 30  
Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	215	220	225
Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	230	235	240
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	245	250	255
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	260	265	270
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	275	280	285
Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	290	295	300
Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	305	310	315
Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	320	325	330
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	335	340	345
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	350	355	360
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	365	370	375
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	380	385	390
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	395	400	405
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	410	415	420
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	425	430	435
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	440	445	450
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	455	460	465
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	470	475	480
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	485	490	495
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	500	505	510

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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ggtgaacatc agcaaaccgt ctgtggttca gctcaactgg agagggtttt 150  
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gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
ctcgagagtt ggggatcacc tatggccaag gtagtggtag agcagtttac 350  
aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtgggc atgggtggtg ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc catagtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72

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tggggctgtg ctccatggcg agctggatac catgtttgtg tggaaagtgcc 150  
ccgtgtttgc tatgcogatg ctgtcctagt ggaaacaact ccactgtaac 200  
tagattgatc tatgcacttt tcttgcctgt tggagtatgt gtagcttgtg 250  
taatgttgat accaggaatg gaagaacaac tgaataagat tcctggattt 300  
tgtgagaatg agaaagggtgt tgtcccttgt aacattttgg ttggctataa 350  
agctgtatat cgtttgtgct ttggtttggc tatgttctat cttcttctct 400  
ctttactaat gatcaaagtg aagagtagca gtgacctag agctgcagtg 450  
cacaatggat tttggttctt taaatttgct gcagcaattg caattattat 500  
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<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

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Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe	35	40	45	
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly	50	55	60	
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu	65	70	75	
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val	80	85	90	
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser	95	100	105	
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala	110	115	120	
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala	125	130	135	
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr	140	145	150	
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu	155	160	165	
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu	170	175	180	
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr	185	190	195	
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu	200	205	210	
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser	215	220	225	
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys	230	235	240	
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser	245	250	255	
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr	260	265	270	
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr	275	280	285	

Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	
				290					295					300	
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	
				305					310					315	
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	
				320					325					330	
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	
				335					340					345	
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	
				350					355					360	
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	
				365					370					375	
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	
				380					385					390	
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	
				395					400					405	
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	
				410					415					420	
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	
				425					430					435	
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	
				440					445					450	

Asp Phe Asp

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
 gcgagaaaga agctgtctcc atcttgtctg tatcccgctg cttcttgnga 50  
 cgttgtggag atggggagcg tccctggggc tgtgtccat ggcgagctgg 100  
 ataccatgtt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggtc ataaagctgt atatcgtttg tgctttggtt 350  
 tggctatgtt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

agcagtgatc ctagagctgc agtgcacaat ggatttttgt tcttttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75  
<211> 438  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
<223> unknown base

<400> 75  
gttattgtga actttgtgga gatgggaggt cntggggctg tgttccatgg 50  
cgagctggat accangtttg tgtggaagtg ccccggtgtt gntatgccga 100  
tgctgtccta gtggaaacaa ntccactgta attagattga tntatgcact 150  
ttntttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtcctt gtaacatttt gggtggctat aaagctgtat atngtttgtg 300  
ctttggtttg gctangttct atnttcttct ctctttacta atgatcaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
<211> 473  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 48  
<223> unknown base

<400> 76  
aagaagctgt ctccatcttg tctgtatccg ctgctcttgt gaacgttntg 50  
gagatgggga gcgtccttgg ggttgtgctc catggcgagc tggataccat 100  
gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcctagtgga 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttgttgg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagattcc tggattttgt gagaatgaga aaggtgttgt cccttgtaac 300  
attttggttg gctataaagc tgtatatcgt ttgtgctttg gtttggctat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagt 400  
atcctagagc tgcagtgcac aatggatttt gggtctttta atttgctgca 450  
gcaattgcaa ttattatttg ggc 473



<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
gctgtcctta gtggaaacaa ntccaacttg taacttggat tgatctatgc 50  
actttttcct tgcttggttg agtatgtgta gctttgtgta atgttggtcc 100  
caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaagggtgtt gtccccttgt aacatttttg gttggctata aagctgtata 200  
tcgtttgtgc tttggtttgg ctatgttcta tcttcttctc tctttactaa 250  
tgatcaaagt gaagagtagc agtgatccta gagctgcagt gcacaatgga 300  
ttttggttct ttaaatttgc tgcagcaatt gcaattatta ttggggcatt 350  
cttcattcca gaaggaaactt ttacaactgt gtgggttttat gtaggcattg 400  
cagggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550  
tgtctttagt tgctatcgtc ctgttctttg tctactacac tcattccagcc 600  
agttgttcag aaaacaaggc gttcatcagt gtcaacatgc tcctctgcgt 650  
tggtgcttct gtaatg 666

<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
atgtttgtgt ggaagtgcc cg 22

<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgccca ccaactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
gccgatgctg tcctagtggg aacaactcca ctgtaactag attgatctat 50  
gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
ctcgggcgcg cacaggcagc tcggtttgcc ctgcgattga gctgcggggtc 50  
gcggccggcg ccggcctctc caatggcaaa tgtgtgtggc tggaggcgag 100  
cgcgaggctt tcggcaaagg cagtcgagtg tttgcagacc ggggcgagtc 150  
ctgtgaaagc agataaaaga aaacatttat taacgtgtca ttacgagggg 200  
agcgcccggc cggggctgtc gcactccccg cggaacattt ggctccctcc 250  
agctccgaga gaggagaaga agaaagcgga aaagaggcag attcacgtcg 300  
tttccagcca agtggacctg atcgatggcc ctctgaatt tatcacgata 350  
tttgatttat tagcgatgcc ccttggtttg tgtgttacgc acacacacgt 400  
gcacacaagg ctctggctcg ctccctccc tcgtttccag ctctggggcg 450  
aatccacat ctgtttcaac tctccgccga gggcgagcag gagcgagagt 500  
gtgtcgaatc tgcgagtga gagggacgag ggaaaagaaa caaagccaca 550  
gacgcaactt gagactcccc catccccaaa gaagcaccag atcagcaaaa 600

aaagaagatg ggccccccga gcctcgtgct gtgcttgctg tccgcaactg 650  
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 acaagaccgg ggcgcatcatg gagcagggcg gggcgcaact catcaacgcc 850  
 ttcgtgacca caccatgtg ctgcctcca cgctcctcca tcctcactgg 900  
 caagtacgtc cacaaccaca acacctacac caacaatgag aactgctcct 950  
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 aatagcactg gctaccggac agctttcttc gggaagtatc ttaatgaata 1050  
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 tgacagcgtg agcttcttcc gcacgtccaa gaagatgtac ccgcacaggc 1250  
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 gccccacaat attcagcct cttcccaaac gcctctcagc acatcacgcc 1350  
 gagctacaac tacgcgcccc acccggacaa aactggatc atgcgctaca 1400  
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 caacatgctg gttgagacgg gcgagctgga caacacgtac atcgtataca 1550  
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 gaggagaact ttctgcccc gtaccagcgt gtgaaggacc tgtgtcagcg 1950  
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gtccgcagtc gctccatccg ctcaagtggcc atcgaggtgg acggcagggc 2250  
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 gaccacgaga ttgaaaccct gcagaacaaa attaagaacc tgagggaagt 2550  
 ccgaggtcac ctgaagaaaa agcggccaga agaattgtac tgtcacaaaa 2600  
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 ctgcatcctt tcaggaaggc cctgcaagag aaggacaagg tgtggctgtt 2700  
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 aaccagcact ggcagacggc gcctttcttg aactggggc ctttctgtgc 2850  
 ctgcaccagc gccacaata acacgtactg gtgcatgagg accatcaatg 2900  
 agactcaca tttcctcttc tgtgaatttg caactggctt cctagagtac 2950  
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 ggacagggat gtccctcaacc agctacacgt acagctcatg gagctgagga 3050  
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 gatggaggaa gctatgagca atacaggcag ttccagcgtc gaaagtggcc 3150  
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 ggggaaggta agaaacaaca gaggtggacc tccaaaaaca tagaggcatc 3250  
 acctgactgc acaggcaatg aaaaaccatg tgggtgattt ccagcagacc 3300  
 tgtgctattg gccaggaggc ctgagaaagc aagcacgcac tctcagtcaa 3350  
 catgacagat tctggaggat aaccagcagg agcagagata acttcaggaa 3400  
 gtccattttt gccctgctt ttgctttgga ttatacctca ccagctgcac 3450  
 aaaatgcatt ttttcgtatc aaaaagtcac cactaaccct ccccagaag 3500  
 ctcaaaaagg aaaacggaga gagcgagcga gagagatttc cttggaaatt 3550  
 tctcccaagg gcgaaagtca ttggaatttt taaatcatag gggaaaagca 3600  
 gtccgtttct aaatcctctt attcttttgg tttgtcaca agaagggaact 3650  
 aagaagcagg acagaggcaa cgtggagagg ctgaaaacag tgcagagacg 3700  
 tttgacaatg agtcagtagc aaaaagaga tgacatttac ctagcactat 3750  
 aaaccctggg tgcctctgaa gaaactgcct tcattgtata tatgtgacta 3800

tttacatgta atcaacatgg gaacttttag gggaacctaa taagaaatcc 3850  
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 gaaaaa 3906

<210> 84  
 <211> 867  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Met Gly Pro Pro Ser Leu Val Leu Cys Leu Leu Ser Ala Thr Val  
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 Phe Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg  
 20 25 30  
 Leu Lys Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn  
 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro  
 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
 245 250 255

Pro	Asp	Lys	His	Trp	Ile	Met	Arg	Tyr	Thr	Gly	Pro	Met	Lys	Pro
				260					265					270
Ile	His	Met	Glu	Phe	Thr	Asn	Met	Leu	Gln	Arg	Lys	Arg	Leu	Gln
				275					280					285
Thr	Leu	Met	Ser	Val	Asp	Asp	Ser	Met	Glu	Thr	Ile	Tyr	Asn	Met
				290					295					300
Leu	Val	Glu	Thr	Gly	Glu	Leu	Asp	Asn	Thr	Tyr	Ile	Val	Tyr	Thr
				305					310					315
Ala	Asp	His	Gly	Tyr	His	Ile	Gly	Gln	Phe	Gly	Leu	Val	Lys	Gly
				320					325					330
Lys	Ser	Met	Pro	Tyr	Glu	Phe	Asp	Ile	Arg	Val	Pro	Phe	Tyr	Val
				335					340					345
Arg	Gly	Pro	Asn	Val	Glu	Ala	Gly	Cys	Leu	Asn	Pro	His	Ile	Val
				350					355					360
Leu	Asn	Ile	Asp	Leu	Ala	Pro	Thr	Ile	Leu	Asp	Ile	Ala	Gly	Leu
				365					370					375
Asp	Ile	Pro	Ala	Asp	Met	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Leu	Leu
				380					385					390
Asp	Thr	Glu	Arg	Pro	Val	Asn	Arg	Phe	His	Leu	Lys	Lys	Lys	Met
				395					400					405
Arg	Val	Trp	Arg	Asp	Ser	Phe	Leu	Val	Glu	Arg	Gly	Lys	Leu	Leu
				410					415					420
His	Lys	Arg	Asp	Asn	Asp	Lys	Val	Asp	Ala	Gln	Glu	Glu	Asn	Phe
				425					430					435
Leu	Pro	Lys	Tyr	Gln	Arg	Val	Lys	Asp	Leu	Cys	Gln	Arg	Ala	Glu
				440					445					450
Tyr	Gln	Thr	Ala	Cys	Glu	Gln	Leu	Gly	Gln	Lys	Trp	Gln	Cys	Val
				455					460					465
Glu	Asp	Ala	Thr	Gly	Lys	Leu	Lys	Leu	His	Lys	Cys	Lys	Gly	Pro
				470					475					480
Met	Arg	Leu	Gly	Gly	Ser	Arg	Ala	Leu	Ser	Asn	Leu	Val	Pro	Lys
				485					490					495
Tyr	Tyr	Gly	Gln	Gly	Ser	Glu	Ala	Cys	Thr	Cys	Asp	Ser	Gly	Asp
				500					505					510
Tyr	Lys	Leu	Ser	Leu	Ala	Gly	Arg	Arg	Lys	Lys	Leu	Phe	Lys	Lys
				515					520					525
Lys	Tyr	Lys	Ala	Ser	Tyr	Val	Arg	Ser	Arg	Ser	Ile	Arg	Ser	Val
				530					535					540
Ala	Ile	Glu	Val	Asp	Gly	Arg	Val	Tyr	His	Val	Gly	Leu	Gly	Asp
				545					550					555
Ala	Ala	Gln	Pro	Arg	Asn	Leu	Thr	Lys	Arg	His	Trp	Pro	Gly	Ala
				560					565					570

Pro	Glu	Asp	Gln	Asp	Asp	Lys	Asp	Gly	Gly	Asp	Phe	Ser	Gly	Thr	575	580	585
Gly	Gly	Leu	Pro	Asp	Tyr	Ser	Ala	Ala	Asn	Pro	Ile	Lys	Val	Thr	590	595	600
His	Arg	Cys	Tyr	Ile	Leu	Glu	Asn	Asp	Thr	Val	Gln	Cys	Asp	Leu	605	610	615
Asp	Leu	Tyr	Lys	Ser	Leu	Gln	Ala	Trp	Lys	Asp	His	Lys	Leu	His	620	625	630
Ile	Asp	His	Glu	Ile	Glu	Thr	Leu	Gln	Asn	Lys	Ile	Lys	Asn	Leu	635	640	645
Arg	Glu	Val	Arg	Gly	His	Leu	Lys	Lys	Lys	Arg	Pro	Glu	Glu	Cys	650	655	660
Asp	Cys	His	Lys	Ile	Ser	Tyr	His	Thr	Gln	His	Lys	Gly	Arg	Leu	665	670	675
Lys	His	Arg	Gly	Ser	Ser	Leu	His	Pro	Phe	Arg	Lys	Gly	Leu	Gln	680	685	690
Glu	Lys	Asp	Lys	Val	Trp	Leu	Leu	Arg	Glu	Gln	Lys	Arg	Lys	Lys	695	700	705
Lys	Leu	Arg	Lys	Leu	Leu	Lys	Arg	Leu	Gln	Asn	Asn	Asp	Thr	Cys	710	715	720
Ser	Met	Pro	Gly	Leu	Thr	Cys	Phe	Thr	His	Asp	Asn	Gln	His	Trp	725	730	735
Gln	Thr	Ala	Pro	Phe	Trp	Thr	Leu	Gly	Pro	Phe	Cys	Ala	Cys	Thr	740	745	750
Ser	Ala	Asn	Asn	Asn	Thr	Tyr	Trp	Cys	Met	Arg	Thr	Ile	Asn	Glu	755	760	765
Thr	His	Asn	Phe	Leu	Phe	Cys	Glu	Phe	Ala	Thr	Gly	Phe	Leu	Glu	770	775	780
Tyr	Phe	Asp	Leu	Asn	Thr	Asp	Pro	Tyr	Gln	Leu	Met	Asn	Ala	Val	785	790	795
Asn	Thr	Leu	Asp	Arg	Asp	Val	Leu	Asn	Gln	Leu	His	Val	Gln	Leu	800	805	810
Met	Glu	Leu	Arg	Ser	Cys	Lys	Gly	Tyr	Lys	Gln	Cys	Asn	Pro	Arg	815	820	825
Thr	Arg	Asn	Met	Asp	Leu	Asp	Gly	Gly	Ser	Tyr	Glu	Gln	Tyr	Arg	830	835	840
Gln	Phe	Gln	Arg	Arg	Lys	Trp	Pro	Glu	Met	Lys	Arg	Pro	Ser	Ser	845	850	855
Lys	Ser	Leu	Gly	Gln	Leu	Trp	Glu	Gly	Trp	Glu	Gly				860	865	

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<400> 91  
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<210> 92  
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<210> 94  
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<213> Homo sapiens

<400> 94  
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 <212> PRT  
 <213> Homo sapiens

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                     20                    25                    30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
                     35                    40                    45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
                     50                    55                    60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
                     65                    70                    75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
                     80                    85                    90  
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<210> 96  
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 <212> DNA  
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 gctgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtg 150  
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 gggagtcaag gctggacctt gggactgagc ccctggggac taccaagtgg 950  
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 caccctcctg cagtgcagtt gctgaggaac tgagcagact ctccagcaga 1050  
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 ctttaggctc ccagggccag aggagccagg gactattttc tgcaccagcc 1200  
 ccaggggctg ccgcccctgt tgtgtctttt ttccagactc acagtggagc 1250  
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 aaataaaaaa aa 1312

<210> 97  
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 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
 Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
 65 70 75

Ser	Ile	Ala	Val	Tyr	Tyr	Asp	Asn	Pro	His	Met	Val	Pro	Pro	Asp		80	85	90
Lys	Cys	Arg	Cys	Ala	Val	Gly	Ser	Ile	Leu	Ser	Glu	Gly	Glu	Glu		95	100	105
Ser	Pro	Ser	Pro	Glu	Leu	Ile	Asp	Leu	Tyr	Gln	Lys	Phe	Gly	Phe		110	115	120
Lys	Val	Phe	Ser	Phe	Pro	Ala	Pro	Ser	His	Val	Val	Thr	Ala	Thr		125	130	135
Phe	Pro	Tyr	Thr	Thr	Ile	Leu	Ser	Ile	Trp	Leu	Ala	Thr	Arg	Arg		140	145	150
Val	His	Pro	Ala	Leu	Asp	Thr	Tyr	Ile	Lys	Glu	Arg	Lys	Leu	Cys		155	160	165
Ala	Tyr	Pro	Arg	Leu	Glu	Ile	Tyr	Gln	Glu	Asp	Gln	Ile	His	Phe		170	175	180
Met	Cys	Pro	Leu	Ala	Arg	Gln	Gly	Asp	Phe	Tyr	Val	Pro	Glu	Met		185	190	195
Lys	Glu	Thr	Glu	Trp	Lys	Trp	Arg	Gly	Leu	Val	Glu	Ala	Ile	Asp		200	205	210
Thr	Gln	Val	Asp	Gly	Thr	Gly	Ala	Asp	Thr	Met	Ser	Asp	Thr	Ser		215	220	225
Ser	Val	Ser	Leu	Glu	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	Ala		230	235	240
Ala	Thr	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Arg	Gly	Trp	Asp	Asp	Gly		245	250	255
Asp	Thr	Arg	Ser	Glu	His	Ser	Tyr	Ser	Glu	Ser	Gly	Ala	Ser	Gly		260	265	270
Ser	Ser	Phe	Glu	Glu	Leu	Asp	Leu	Glu	Gly	Glu	Gly	Pro	Leu	Gly		275	280	285
Glu	Ser	Arg	Leu	Asp	Pro	Gly	Thr	Glu	Pro	Leu	Gly	Thr	Thr	Lys		290	295	300
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<210> 98

<211> 725

<212> DNA

<213> Homo sapiens

<400> 98

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cccgctccat ctgtgtgtgc tgctgtgtgt cagtgcggcg gtgtgccggg 150
ctgaggctgg gctcgaaacc gaaagtcccg tccggaccct ccaagtggag 200
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 gtgattccag gtctggagca gagtcttctc gacatgtgtg tgggagagaa 400  
 gcgaagggca atcattcctt ctcaattggc ctatggaaaa cggggatttc 450  
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 aaaacttaaa aaaaaaaaaa aaaaa 725

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 <212> PRT  
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 Thr Glu Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu  
 35 40 45  
 Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu  
 50 55 60  
 His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp  
 65 70 75  
 Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys  
 80 85 90  
 Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val  
 95 100 105  
 Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly  
 110 115 120  
 Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln  
 125 130 135  
 Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu  
 140 145 150  
 Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val  
 155 160 165  
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<212> DNA  
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cgcttcacat aactacacg ggaagcttgg tagatggacg tattattgac 300  
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gattccaggt ctggagcaga gtcttctcga catgtgtgtg ggagagaagc 400  
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gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

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cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
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atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
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ggtgccagcc ctcttgggcc tcattgggta tcacctatac agaaaggcca 450  
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 agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

<210> 102  
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 <212> DNA  
 <213> Homo sapiens

<400> 102  
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 ccactgcacg acgggggtgg actgacctga aaaaaatgtc tggatttcta 150  
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<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

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				20					25					30
Leu	Phe	Phe	Thr	Gly	Trp	Trp	Ile	Ile	Ile	Asp	Ala	Ala	Val	Ile
				35					40					45
Tyr	Pro	Thr	Met	Lys	Asp	Phe	Asn	His	Ser	Tyr	His	Ala	Cys	Gly
				50					55					60
Val	Ile	Ala	Thr	Ile	Ala	Phe	Leu	Met	Ile	Asn	Ala	Val	Ser	Asn
				65					70					75
Gly	Gln	Val	Arg	Gly	Asp	Ser	Tyr	Ser	Glu	Gly	Cys	Leu	Gly	Gln
				80					85					90
Thr	Gly	Ala	Arg	Ile	Trp	Leu	Phe	Val	Gly	Phe	Met	Leu	Ala	Phe
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Gly	Ser	Leu	Ile	Ala	Ser	Met	Trp	Ile	Leu	Phe	Gly	Gly	Tyr	Val
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Ala	Lys	Glu	Lys	Asp	Ile	Val	Tyr	Pro	Gly	Ile	Ala	Val	Phe	Phe
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Gln	Asn	Ala	Phe	Ile	Phe	Phe	Gly	Gly	Leu	Val	Phe	Lys	Phe	Gly
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Arg	Thr	Glu	Asp	Leu	Trp	Gln								
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<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

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agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200

tgggtggatta tcatagatgc agctgttatt tatccacca tgaaagattt 250

caaccactca taccatgcct gtggtgttat agcaaccata gccttcctaa 300

tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350

ggttgctctgg gtcaaacagg tgctcgcatt tggcttttcg ttggtttcat 400



gttggccttt ggatctctga ttgcatctat gtggattctt tttggagggt 450  
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cagaatgcct tcatcttttt tggagggtg gtttttaagt ttggc 545

<210> 105  
<211> 490  
<212> DNA  
<213> Homo sapiens

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<221> unsure  
<222> 31, 39, 108, 145, 179, 219, 412, 479  
<223> unknown base

<400> 105  
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tgggtgtanta ttttttacag gctggtggat tatcatagat gcagntgtta 150  
tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
atagcaacca tagccttcnt aatgattaat gcagtatcga atggacaagt 250  
ccgaggtgat agttacagtg aaggttggtt ggtcaaaca ggtgctcgca 300  
tttggctttt cgttgggttc atgttggcct ttggatctct gattgcatct 350  
atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
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tggtttttaa gtttggccgc actgaagant tatggcagt 490

<210> 106  
<211> 466  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
<223> unknown base

<400> 106  
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ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatatttt 150  
acagggtggt ggattatcat agatgcagct gttatttatc ccaccatgaa 200  
agatttnaac cactcatacc atgcctgttg tgttatagca accatagcct 250  
tcctaagtat taatgcagta togaatggac aagtccgagg tgatagttac 300  
agtgaagggt gtttgggtca aacagggtgnt cgcatttggc ttttcgttgg 350  
tttcatgttg gcctttggat ttctgattgn attctatgcg gattcttctt 400

ggagggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450

atccccccag aatgcc 466

<210> 107

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356

<223> unknown base

<400> 107

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ttatnataga tgcagctgtt atttatccca ccatgaaaga tttnaaccan 150

tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200

tgcagtatng aatggacaag tccgaggtga tagttacagt gaaggttggt 250

tgggtcaaac aggtgntngc atttggcttt tngttgggtt catgttggcc 300

tttgatctn tgattgcatt tatgtggatt ntttttggag gttatgttgc 350

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<210> 108

<211> 552

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 12, 25, 65, 130, 437, 537

<223> unknown base

<400> 108

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ggcccggcgc ggcngacac cgggttccgg gaaccattgc acgacggggt 100

ggactgacct gaaaaaatg tttggatttn tagagggctt gagatgctca 150

gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200

tgggtgacta ttttttacag gctgggtgat tatcatagat gcagctgtta 250

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atagcaacca tagccttct aatgattaat gcagtatcga atggacaagt 350

ccgaggtgat agttacagtg aaggttgtct ggggtcaaaca ggtgctcgca 400

tttggctttt cgttgggtttc atgttggcct ttggatntct gattgcatct 450

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ccctggaatt gctgtatttt tccagaatgc cttcatnttt tttggagggc 550

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<210> 109  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 109  
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<210> 110  
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<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 111  
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<210> 112  
<211> 3004  
<212> DNA  
<213> Homo sapiens

<400> 112  
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ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccttggtaac 150  
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agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
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<210> 113  
 <211> 610  
 <212> PRT  
 <213> Homo sapiens

<400> 113  
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 Asn Pro Phe Ser Glu Asp Val Lys Arg Pro Pro Ala Pro Leu Val  
 35 40 45  
 Thr Asp Lys Glu Ala Arg Lys Lys Val Leu Lys Gln Ala Phe Ser  
 50 55 60  
 Ala Asn Gln Val Pro Glu Lys Leu Asp Val Val Val Ile Gly Ser  
 65 70 75  
 Gly Phe Gly Gly Leu Ala Ala Ala Ala Ile Leu Ala Lys Ala Gly  
 80 85 90  
 Lys Arg Val Leu Val Leu Glu Gln His Thr Lys Ala Gly Gly Cys  
 95 100 105

Cys	His	Thr	Phe	Gly	Lys	Asn	Gly	Leu	Glu	Phe	Asp	Thr	Gly	Ile	110	115	120
His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile	125	130	135
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser	140	145	150
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys	155	160	165
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu	170	175	180
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile	185	190	195
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu	200	205	210
Leu	Lys	Phe	Leu	Pro	Leu	Pro	Val	Val	Gln	Leu	Leu	Asp	Arg	Cys	215	220	225
Gly	Leu	Leu	Thr	Arg	Phe	Ser	Pro	Phe	Leu	Gln	Ala	Ser	Thr	Gln	230	235	240
Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu	245	250	255
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro	260	265	270
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr	275	280	285
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala	290	295	300
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu	305	310	315
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys	320	325	330
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile	335	340	345
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr	350	355	360
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys	365	370	375
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val	380	385	390
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser	395	400	405
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met	410	415	420

Glu Arg Tyr Val	Ser Met Pro Arg	Glu Glu Ala Ala	Glu His Ile
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Pro Leu Leu Phe	Phe Ala Phe Pro Ser	Ala Lys Asp Pro Thr	Trp
440		445	450
Glu Asp Arg Phe	Pro Gly Arg Ser Thr	Met Ile Met Leu Ile	Pro
455		460	465
Thr Ala Tyr Glu	Trp Phe Glu Glu Trp	Gln Ala Glu Leu Lys	Gly
470		475	480
Lys Arg Gly Ser	Asp Tyr Glu Thr Phe	Lys Asn Ser Phe Val	Glu
485		490	495
Ala Ser Met Ser	Val Val Leu Lys Leu	Phe Pro Gln Leu Glu	Gly
500		505	510
Lys Val Glu Ser	Val Thr Ala Gly Ser	Pro Leu Thr Asn Gln	Phe
515		520	525
Tyr Leu Ala Ala	Pro Arg Gly Ala Cys	Tyr Gly Ala Asp His	Asp
530		535	540
Leu Gly Arg Leu	His Pro Cys Val Met	Ala Ser Leu Arg Ala	Gln
545		550	555
Ser Pro Ile Pro	Asn Leu Tyr Leu Thr	Gly Gln Asp Ile Phe	Thr
560		565	570
Cys Gly Leu Val	Gly Ala Leu Gln Gly	Ala Leu Leu Cys Ser	Ser
575		580	585
Ala Ile Leu Lys	Arg Asn Leu Tyr Ser	Asp Leu Lys Asn Leu	Asp
590		595	600
Ser Arg Ile Arg	Ala Gln Lys Lys Lys	Asn	
605		610	

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
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 agttgctggt caaatatttc ttgattcaga agaattctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaaagagg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
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a 1701

<210> 115

<211> 301

<212> PRT

<213> Homo sapiens

<400> 115

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Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
20 25 30



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Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe	50	55	60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu	65	70	75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp	80	85	90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu	95	100	105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly	110	115	120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp	125	130	135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg	140	145	150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp	155	160	165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
Ala	Leu	Gly	Gly	Asn	Leu	Ile	Ala	His	Met	Val	Leu	Val	Ser	Arg	290	295	300

Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 116

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<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
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 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
 35 40 45  
 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
 50 55 60  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
 65 70 75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
 80 85 90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
 95 100 105  
 Gln Pro Glu Asp Asp Ala Asp Tyr Tyr Cys Ser Val Gly Tyr Gly  
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 Phe Ser Pro

<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens

<400> 118

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 gcacacatgc agatatgctg cctgggcaca cacttccgga cacacatgca 2800  
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gaaggaagac tgggttgacag ggactgtggt ctctcctggg gcccgggacc 3250  
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 aa 3402

<210> 119  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
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 Met Ala Asp Lys Val Val Pro Arg Gln Val Ala Arg Leu Gly Arg  
 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
 110 115 120  
 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
 230 235 240

Arg	Thr	Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	
				245					250					255	
Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	
				260					265					270	
Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	
				275					280					285	
Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	
				290					295					300	
Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	
				305					310					315	
Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln	
				320					325					330	
Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	
				335					340					345	
Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys	
				350					355					360	
Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu	
				365					370					375	
Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile	
				380					385					390	
Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro	
				395					400					405	
Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro	
				410					415					420	
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu	
				425					430					435	
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His	
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Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val	
				455					460					465	
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr	
				470					475					480	
His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys	
				485					490					495	
Val	His	Gln	His	Ile	His	Tyr	Gln	Cys							
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<210> 120

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

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<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

cggttcgaca cgcggcaggt g 21

<210> 122

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

tgctgctcct gctgccgccg ctgctgctgg gggccttccc gcggg 45

<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

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gcctgggtgt tctccttctt ggtcctggaa gtcacatctg tggtggggag 200

acagacgatg ctcaccagct cagtaagaag agtccagcct gggaagaaga 250

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 tactctgtat ttcgaaaaaa 4420

<210> 124  
 <211> 1184  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
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 20 25 30  
 Arg Arg Val Gln Pro Gly Lys Lys Asn Pro Ser Ile Phe Ala Lys  
 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
 110 115 120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln Val Asn Ala Asp Cys Asp Ala Cys Met Cys Gln Asp Phe Met	215	220	225
Leu His Gly Ala Val Ser Leu Pro Gly Gly Ala Pro Ala Ser Gly	230	235	240
Ala Ala Ile Tyr Leu Leu Thr Lys Thr Pro Lys Leu Leu Thr Gln	245	250	255
Thr Asp Ser Asp Gly Arg Phe Arg Ile Pro Gly Leu Cys Pro Asp	260	265	270
Gly Lys Ser Ile Leu Lys Ile Thr Lys Val Lys Phe Ala Pro Ile	275	280	285
Val Leu Thr Met Pro Lys Thr Ser Leu Lys Ala Ala Thr Ile Lys	290	295	300
Ala Glu Phe Val Arg Ala Glu Thr Pro Tyr Met Val Met Asn Pro	305	310	315
Glu Thr Lys Ala Arg Arg Ala Gly Gln Ser Val Ser Leu Cys Cys	320	325	330
Lys Ala Thr Gly Lys Pro Arg Pro Asp Lys Tyr Phe Trp Tyr His	335	340	345
Asn Asp Thr Leu Leu Asp Pro Ser Leu Tyr Lys His Glu Ser Lys	350	355	360
Leu Val Leu Arg Lys Leu Gln Gln His Gln Ala Gly Glu Tyr Phe	365	370	375
Cys Lys Ala Gln Ser Asp Ala Gly Ala Val Lys Ser Lys Val Ala	380	385	390
Gln Leu Ile Val Thr Ala Ser Asp Glu Thr Pro Cys Asn Pro Val	395	400	405
Pro Glu Ser Tyr Leu Ile Arg Leu Pro His Asp Cys Phe Gln Asn	410	415	420
Ala Thr Asn Ser Phe Tyr Tyr Asp Val Gly Arg Cys Pro Val Lys	425	430	435
Thr Cys Ala Gly Gln Gln Asp Asn Gly Ile Arg Cys Arg Asp Ala	440	445	450
Val Gln Asn Cys Cys Gly Ile Ser Lys Thr Glu Glu Arg Glu Ile	455	460	465
Gln Cys Ser Gly Tyr Thr Leu Pro Thr Lys Val Ala Lys Glu Cys	470	475	480
Ser Cys Gln Arg Cys Thr Glu Thr Arg Ser Ile Val Arg Gly Arg	485	490	495
Val Ser Ala Ala Asp Asn Gly Glu Pro Met Arg Phe Gly His Val	500	505	510
Tyr Met Gly Asn Ser Arg Val Ser Met Thr Gly Tyr Lys Gly Thr	515	520	525

Phe Thr Leu His	Val	Pro	Gln	Asp	Thr	Glu	Arg	Leu	Val	Leu	Thr
	530					535					540
Phe Val Asp Arg	Leu	Gln	Lys	Phe	Val	Asn	Thr	Thr	Lys	Val	Leu
	545					550					555
Pro Phe Asn Lys	Lys	Gly	Ser	Ala	Val	Phe	His	Glu	Ile	Lys	Met
	560					565					570
Leu Arg Arg Lys	Glu	Pro	Ile	Thr	Leu	Glu	Ala	Met	Glu	Thr	Asn
	575					580					585
Ile Ile Pro Leu	Gly	Glu	Val	Val	Gly	Glu	Asp	Pro	Met	Ala	Glu
	590					595					600
Leu Glu Ile Pro	Ser	Arg	Ser	Phe	Tyr	Arg	Gln	Asn	Gly	Glu	Pro
	605					610					615
Tyr Ile Gly Lys	Val	Lys	Ala	Ser	Val	Thr	Phe	Leu	Asp	Pro	Arg
	620					625					630
Asn Ile Ser Thr	Ala	Thr	Ala	Ala	Gln	Thr	Asp	Leu	Asn	Phe	Ile
	635					640					645
Asn Asp Glu Gly	Asp	Thr	Phe	Pro	Leu	Arg	Thr	Tyr	Gly	Met	Phe
	650					655					660
Ser Val Asp Phe	Arg	Asp	Glu	Val	Thr	Ser	Glu	Pro	Leu	Asn	Ala
	665					670					675
Gly Lys Val Lys	Val	His	Leu	Asp	Ser	Thr	Gln	Val	Lys	Met	Pro
	680					685					690
Glu His Ile Ser	Thr	Val	Lys	Leu	Trp	Ser	Leu	Asn	Pro	Asp	Thr
	695					700					705
Gly Leu Trp Glu	Glu	Glu	Gly	Asp	Phe	Lys	Phe	Glu	Asn	Gln	Arg
	710					715					720
Arg Asn Lys Arg	Glu	Asp	Arg	Thr	Phe	Leu	Val	Gly	Asn	Leu	Glu
	725					730					735
Ile Arg Glu Arg	Arg	Leu	Phe	Asn	Leu	Asp	Val	Pro	Glu	Ser	Arg
	740					745					750
Arg Cys Phe Val	Lys	Val	Arg	Ala	Tyr	Arg	Ser	Glu	Arg	Phe	Leu
	755					760					765
Pro Ser Glu Gln	Ile	Gln	Gly	Val	Val	Ile	Ser	Val	Ile	Asn	Leu
	770					775					780
Glu Pro Arg Thr	Gly	Phe	Leu	Ser	Asn	Pro	Arg	Ala	Trp	Gly	Arg
	785					790					795
Phe Asp Ser Val	Ile	Thr	Gly	Pro	Asn	Gly	Ala	Cys	Val	Pro	Ala
	800					805					810
Phe Cys Asp Asp	Gln	Ser	Pro	Asp	Ala	Tyr	Ser	Ala	Tyr	Val	Leu
	815					820					825
Ala Ser Leu Ala	Gly	Glu	Glu	Leu	Gln	Ala	Val	Glu	Ser	Ser	Pro
	830					835					840

Lys	Phe	Asn	Pro	Asn	Ala	Ile	Gly	Val	Pro	Gln	Pro	Tyr	Leu	Asn	
				845					850					855	
Lys	Leu	Asn	Tyr	Arg	Arg	Thr	Asp	His	Glu	Asp	Pro	Arg	Val	Lys	
				860					865					870	
Lys	Thr	Ala	Phe	Gln	Ile	Ser	Met	Ala	Lys	Pro	Arg	Pro	Asn	Ser	
				875					880					885	
Ala	Glu	Glu	Ser	Asn	Gly	Pro	Ile	Tyr	Ala	Phe	Glu	Asn	Leu	Arg	
				890					895					900	
Ala	Cys	Glu	Glu	Ala	Pro	Pro	Ser	Ala	Ala	His	Phe	Arg	Phe	Tyr	
				905					910					915	
Gln	Ile	Glu	Gly	Asp	Arg	Tyr	Asp	Tyr	Asn	Thr	Val	Pro	Phe	Asn	
				920					925					930	
Glu	Asp	Asp	Pro	Met	Ser	Trp	Thr	Glu	Asp	Tyr	Leu	Ala	Trp	Trp	
				935					940					945	
Pro	Lys	Pro	Met	Glu	Phe	Arg	Ala	Cys	Tyr	Ile	Lys	Val	Lys	Ile	
				950					955					960	
Val	Gly	Pro	Leu	Glu	Val	Asn	Val	Arg	Ser	Arg	Asn	Met	Gly	Gly	
				965					970					975	
Thr	His	Arg	Arg	Thr	Val	Gly	Lys	Leu	Tyr	Gly	Ile	Arg	Asp	Val	
				980					985					990	
Arg	Ser	Thr	Arg	Asp	Arg	Asp	Gln	Pro	Asn	Val	Ser	Ala	Ala	Cys	
				995					1000					1005	
Leu	Glu	Phe	Lys	Cys	Ser	Gly	Met	Leu	Tyr	Asp	Gln	Asp	Arg	Val	
				1010					1015					1020	
Asp	Arg	Thr	Leu	Val	Lys	Val	Ile	Pro	Gln	Gly	Ser	Cys	Arg	Arg	
				1025					1030					1035	
Ala	Ser	Val	Asn	Pro	Met	Leu	His	Glu	Tyr	Leu	Val	Asn	His	Leu	
				1040					1045					1050	
Pro	Leu	Ala	Val	Asn	Asn	Asp	Thr	Ser	Glu	Tyr	Thr	Met	Leu	Ala	
				1055					1060					1065	
Pro	Leu	Asp	Pro	Leu	Gly	His	Asn	Tyr	Gly	Ile	Tyr	Thr	Val	Thr	
				1070					1075					1080	
Asp	Gln	Asp	Pro	Arg	Thr	Ala	Lys	Glu	Ile	Ala	Leu	Gly	Arg	Cys	
				1085					1090					1095	
Phe	Asp	Gly	Thr	Ser	Asp	Gly	Ser	Ser	Arg	Ile	Met	Lys	Ser	Asn	
				1100					1105					1110	
Val	Gly	Val	Ala	Leu	Thr	Phe	Asn	Cys	Val	Glu	Arg	Gln	Val	Gly	
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Arg	Gln	Ser	Ala	Phe	Gln	Tyr	Leu	Gln	Ser	Thr	Pro	Ala	Gln	Ser	
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Pro	Ala	Ala	Gly	Thr	Val	Gln	Gly	Arg	Val	Pro	Ser	Arg	Arg	Gln	
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Ser Leu Arg Phe Pro Arg Val Ala Gln Gln Pro Leu Ile Asn  
 1175 1180

<210> 125  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 125  
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<210> 126  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 126  
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<210> 127  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 127  
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<210> 128  
 <211> 2819  
 <212> DNA  
 <213> Homo sapiens

<400> 128  
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 gattacatgg cctgccagcc ggaatccacg gacatgacaa aatatctgaa 450

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 ccagggcgcg ccccgccacg gcaccccgag gctgctgctg ctgaccacgc 1550  
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 cagcactgag tccagtgcga gcacacaccc actatacaag agtggctata 2250  
 ggaaaaaaga aagtgtatct atccttttgt attcaaatga agttattttt 2300  
 cttgaactac tgtaatatgt agattttttg tattattgcc aatttgtggt 2350  
 accagacaat ctgttaatgt atctaattcg aatcagcaaa gactgacatt 2400  
 ttattttgtc ctctttcgtt ctgttttgtt tcactgtgca gagatttctc 2450  
 tgtaagggca acgaacgtgc tggcatcaaa gaatatcagt ttacatatat 2500  
 aacaagtgtg ataagattcc accaaaggac attctaaatg ttttcttgtt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
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 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
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 20 25 30  
 Asp Leu Cys Lys Thr Gln Ile Tyr Thr Glu Glu Gly Lys Val Trp  
 35 40 45  
 Asp Tyr Met Ala Cys Gln Pro Glu Ser Thr Asp Met Thr Lys Tyr  
 50 55 60  
 Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro  
 65 70 75  
 Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn  
 80 85 90  
 Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu  
 95 100 105  
 Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser  
 110 115 120  
 Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr



	125		130		135
Leu Ser Trp Ser Lys Thr Ile Glu Leu Thr Asp Asn Ile Val Ile	140		145		150
Thr Phe Glu Ser Gly Arg Pro Asp Gln Met Ile Leu Glu Lys Ser	155		160		165
Leu Asp Tyr Gly Arg Thr Trp Gln Pro Tyr Gln Tyr Tyr Ala Thr	170		175		180
Asp Cys Leu Asp Ala Phe His Met Asp Pro Lys Ser Val Lys Asp	185		190		195
Leu Ser Gln His Thr Val Leu Glu Ile Ile Cys Thr Glu Glu Tyr	200		205		210
Ser Thr Gly Tyr Thr Thr Asn Ser Lys Ile Ile His Phe Glu Ile	215		220		225
Lys Asp Arg Phe Ala Leu Phe Ala Gly Pro Arg Leu Arg Asn Met	230		235		240
Ala Ser Leu Tyr Gly Gln Leu Asp Thr Thr Lys Lys Leu Arg Asp	245		250		255
Phe Phe Thr Val Thr Asp Leu Arg Ile Arg Leu Leu Arg Pro Ala	260		265		270
Val Gly Glu Ile Phe Val Asp Glu Leu His Leu Ala Arg Tyr Phe	275		280		285
Tyr Ala Ile Ser Asp Ile Lys Val Arg Gly Arg Cys Lys Cys Asn	290		295		300
Leu His Ala Thr Val Cys Val Tyr Asp Asn Ser Lys Leu Thr Cys	305		310		315
Glu Cys Glu His Asn Thr Thr Gly Pro Asp Cys Gly Lys Cys Lys	320		325		330
Lys Asn Tyr Gln Gly Arg Pro Trp Ser Pro Gly Ser Tyr Leu Pro	335		340		345
Ile Pro Lys Gly Thr Ala Asn Thr Cys Ile Pro Ser Ile Ser Ser	350		355		360
Ile Gly Thr Asn Val Cys Asp Asn Glu Leu Leu His Cys Gln Asn	365		370		375
Gly Gly Thr Cys His Asn Asn Val Arg Cys Leu Cys Pro Ala Ala	380		385		390
Tyr Thr Gly Ile Leu Cys Glu Lys Leu Arg Cys Glu Glu Ala Gly	395		400		405
Ser Cys Gly Ser Asp Ser Gly Gln Gly Ala Pro Pro His Gly Thr	410		415		420
Pro Ala Leu Leu Leu Leu Thr Thr Leu Leu Gly Thr Ala Ser Pro	425		430		435
Leu Val Phe					

<210> 130  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 130  
tcgattatgg acgaacatgg cagc 24

<210> 131  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 131  
ttctgagatc cctcatcctc 20

<210> 132  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 132  
aggttcaggg acagcaagtt tggg 24

<210> 133  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 133  
tttgctggac ctcggtacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
<211> 1493  
<212> DNA  
<213> Homo sapiens

<400> 134  
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cggggcgagg tgtcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
ttttgootgc gtggtacggg taagggatgg actgcccctc tcagcctcta 200  
ctgatTTTTA ccacacccaa gatttttttg aatggaggag acggctcaag 250  
agtttagcct tgcgactggc ccagtatcca ggtcgagggt ctgcagaagg 300

ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
 ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
 accctgtggg ggggaattcac agcttcctat gacactacct gcattggcct 450  
 agcctccagg ccatacgctt ttcttgagtt tgacagcatc attcagaaag 500  
 tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
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 gatttgatcc ccaggatctc tattttgttt aatgggcttt tctactaaaa 1200  
 gcataaaata ctgaggctga ttttagtcagg gcaaaacat ttactttaca 1250  
 tattcgtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
 tcttgtaaca ataaatatatt tgagtaaata atgggtacat tttaacaaac 1350  
 tcagtagtac aacctaact tgtataaaag tgtgtaaaaa tgtatagcca 1400  
 tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
 aaatctaaag tgtttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 135  
 Met Ser Val Ile Phe Phe Ala Cys Val Val Arg Val Arg Asp Gly  
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 Leu Pro Leu Ser Ala Ser Thr Asp Phe Tyr His Thr Gln Asp Phe  
 20 25 30  
 Leu Glu Trp Arg Arg Arg Leu Lys Ser Leu Ala Leu Arg Leu Ala  
 35 40 45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	
				50					55					60	
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	
				65					70					75	
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	
				80					85					90	
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	
				95					100					105	
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	
				110					115					120	
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	
				125					130					135	
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	
				140					145					150	
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	
				155					160					165	
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	
				170					175					180	
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	
				185					190					195	
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	
				200					205					210	
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	
				215					220					225	

Gln Thr Ser

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
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 ctgcattggc ntagcotcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 gggttcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

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ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggc cggggcgctcc 150  
ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
cgaggaaagg ccctaggtct gggctctgggt gcttggcggc ggcggcttcc 250  
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gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
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 gaaaaaactg gacactgcca tctgtgcct aggcctggag ggaagccaa 1850  
 ggctacttgg acctcaggac ctggaatctg agagggtggg tggcagaggg 1900  
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 tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
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 tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
 tgtgctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
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<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

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			20						25					30
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys
			35						40					45
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val
			50						55					60
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala
			65						70					75
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu
			80						85					90
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn
			95						100					105
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro
			110						115					120
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr

125					130					135				
Glu	Ser	Glu	Gly	Phe	Ala	Gly	Ser	Arg	Lys	Gly	Val	Leu	Gly	Arg
				140					145					150
Val	Tyr	Glu	Thr	Val	Val	Met	Leu	Met	Leu	Leu	Thr	Leu	Leu	Val
				155					160					165
Leu	Gly	Met	Val	Trp	Val	Ala	Ser	Ala	Ile	Val	Asp	Lys	Asn	Lys
				170					175					180
Ala	Asn	Arg	Glu	Ser	Leu	Tyr	Asp	Phe	Trp	Glu	Tyr	Tyr	Leu	Pro
				185					190					195
Tyr	Leu	Tyr	Ser	Cys	Ile	Ser	Phe	Leu	Gly	Val	Leu	Leu	Leu	Leu
				200					205					210
Val	Cys	Thr	Pro	Leu	Gly	Leu	Ala	Arg	Met	Phe	Ser	Val	Thr	Gly
				215					220					225
Lys	Leu	Leu	Val	Lys	Pro	Arg	Leu	Leu	Glu	Asp	Leu	Glu	Glu	Gln
				230					235					240
Leu	Tyr	Cys	Ser	Ala	Phe	Glu	Glu	Ala	Ala	Leu	Thr	Arg	Arg	Ile
				245					250					255
Cys	Asn	Pro	Thr	Ser	Cys	Trp	Leu	Pro	Leu	Asp	Met	Glu	Leu	Leu
				260					265					270
His	Arg	Gln	Val	Leu	Ala	Leu	Gln	Thr	Gln	Arg	Val	Leu	Leu	Glu
				275					280					285
Lys	Arg	Arg	Lys	Ala	Ser	Ala	Trp	Gln	Arg	Asn	Leu	Gly	Tyr	Pro
				290					295					300
Leu	Ala	Met	Leu	Cys	Leu	Leu	Val	Leu	Thr	Gly	Leu	Ser	Val	Leu
				305					310					315
Ile	Val	Ala	Ile	His	Ile	Leu	Glu	Leu	Leu	Ile	Asp	Glu	Ala	Ala
				320					325					330
Met	Pro	Arg	Gly	Met	Gln	Gly	Thr	Ser	Leu	Gly	Gln	Val	Ser	Phe
				335					340					345
Ser	Lys	Leu	Gly	Ser	Phe	Gly	Ala	Val	Ile	Gln	Val	Val	Leu	Ile
				350					355					360
Phe	Tyr	Leu	Met	Val	Ser	Ser	Val	Val	Gly	Phe	Tyr	Ser	Ser	Pro
				365					370					375
Leu	Phe	Arg	Ser	Leu	Arg	Pro	Arg	Trp	His	Asp	Thr	Ala	Met	Thr
				380					385					390
Gln	Ile	Ile	Gly	Asn	Cys	Val	Cys	Leu	Leu	Val	Leu	Ser	Ser	Ala
				395					400					405
Leu	Pro	Val	Phe	Ser	Arg	Thr	Leu	Gly	Leu	Thr	Arg	Phe	Asp	Leu
				410					415					420
Leu	Gly	Asp	Phe	Gly	Arg	Phe	Asn	Trp	Leu	Gly	Asn	Phe	Tyr	Ile
				425					430					435
Val	Phe	Leu	Tyr	Asn	Ala	Ala	Phe	Ala	Gly	Leu	Thr	Thr	Leu	Cys

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val	Arg Ala Glu Leu Ile Arg	
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu	Pro Val Ser Gly Phe Pro	
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
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 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgcg agtgtattat atcaaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttcctga cccgcttcaa 250  
 gaagcctgct gagttoacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcggtggt gcttgcctt taagggcggg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgcgag gaaaggcccc 150  
 taggctgggt ctggtgcttg gggcgggcgg ctctctcccc gttgtcntcc 200  
 ccgggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatata aacacttctg tttgcaacac tgtacatcnt 350  
 ctgccacatc ttctgacct gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttacccctgg caattgccct ggggtgctgtc ctgctcctgc ccttctccat 500  
catcagcaat gaggtgctgc actccc 526

<210> 141  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 141  
gactgtatct gagccccaga ctgc 24

<210> 142  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgcctatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50  
caaacctggt ttggaattga ggaaacttct cttttgatct cagccottgg 100  
tgggtocagggt cttcatgctg ctgtgggtga tattactggg cctggctcct 150  
gtcagtggac agtttgcaag gacaccacagg cccattatct tcctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacott 300  
 gggaaagaaa tactaagaga aaccccagac aatatccttg aggttcagga 350  
 atctggagag tacagatgcc aggcccaggg ctccoctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttctctatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctacactagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
 aataatacta ttacaagaa tgataatgtc ctggcattcc ttaataaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccaggga gacccccgcg 50  
 cccccccggt gtgaggcggc ctacagggc cggtgtggct ggcgagccga 100  
 cgcgccggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaaccat ggctccgcag aacctgagca ccttttgcct gttgctgcta 200  
 tacctcatcg gggcggtgat tgccggacga gatttctata agatcttggg 250  
 ggtgcctcga agtgcctcta taaaggatat taaaaaggcc tataggaaac 300  
 tagccctgca gcttcatccc gaccggaacc ctgatgatcc acaagcccag 350  
 gagaaattcc aggatctggg tgctgcttat gaggttctgt cagatagtga 400  
 gaaacggaaa cagtacgata cttatggtga agaaggatta aaagatggtc 450  
 atcagagctc ccatggagac attttttcac acttcttttg ggattttggt 500  
 ttcattgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaagagg 550  
 aagtgatatt attgtagatc tagaagtcac tttggaagaa gtatatgcag 600  
 gaaattttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
 ggcaaacgga agtgcaattg tcggcaagag atgcggacca cccagctggg 700  
 ccctgggagc ttccaaatga cccaggagggt ggtctgcgac gaatgcccta 750  
 atgtcaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
 ggggtgagag acggcatgga gtaccctttt attggagaag gtgagcctca 850  
 cgtggatggg gagcctggag atttacgggt ccgaatcaaa gttgtcaagc 900  
 acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
 tcattagttg agtcaactgt tggctttgag atggatatta ctcaacttga 1000  
 tggtcacaag gtacatattt cccgggataa gatcaccagg ccaggagcga 1050  
 agctatggaa gaaaggggaa gggctccca actttgacaa caacaatatc 1100  
 aagggtcttt tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
 aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
 tgcagaaggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
 gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
 ttttgtgtgt gtttttgttt ttattttcaa tatgcaagtt aggottaatt 1350  
 tttttatcta atgatcatca tgaaatgaat aagagggctt aagaatttgt 1400  
 ccatttgcac tcggaaaaga atgaccagca aaagggttac taatacctct 1450  
 ccctttgggg atttaatgtc tgggtctgcc gcctgagttt caagaattaa 1500  
 agctgcaaga ggactccagg agcaaaagaa acacaatata gagggttgga 1550  
 gttgttagca atttcattca aaatgccaac tggagaagtc tgtttttaaa 1600  
 tacattttgt tgttattttt a 1621

<210> 148  
 <211> 358  
 <212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
1				5					10					15
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr
				35					40					45
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp
				50					55					60
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu
				65					70					75
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly
				80					85					90
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile
				95					100					105
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr
				110					115					120
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile
				125					130					135
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe
				140					145					150
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly
				155					160					165
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu
				170					175					180
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu
				185					190					195
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val
				200					205					210
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile
				215					220					225
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
				230					235					240
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly
				245					250					255
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu
				260					265					270
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val
				275					280					285
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp
				290					295					300

Lys Lys Gly Glu Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys  
305 310 315

Gly Ser Leu Ile Ile Thr Phe Asp Val Asp Phe Pro Lys Glu Gln  
320 325 330

Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln  
335 340 345

Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr  
350 355

<210> 149  
<211> 509  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445,  
482  
<223> unknown base

<400> 149  
tgggaccagg gaacccccggg ccccccggtg gagngcctaa caggccggtg 50  
gntgcgaccg aagcggcggg cggaggaggt tttgaggatt tttggaacag 100  
gacccggaca gaggaacat ggttccgcag aacntgagca cnttttgcct 150  
gttgntgnta tacttcatcg gggcggtgat tgccggacga gatttntata 200  
agattttggg gtgcctngaa gtgcctnta taaaggatat taaaaaggcc 250  
tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
aaagatggtn atcagagctc ccatggagac attttttcac acttntttgg 450  
ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
ttccaagag 509

<210> 150  
<211> 1532  
<212> DNA  
<213> Homo sapiens

<400> 150  
ggcagaggc ggcggggcag tcgcgggatg cgcccgagg ccacagcctg 50  
aggccctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
gacggggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
ggtgctggtt tgcaggcagc gctactgccg gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagacccag 350  
tctgagccct ctgagttaga actggacgat gtcgttatca ccaaccccca 400  
cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
aagcttggtt ccatgacaat gggctctggg gccaagatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggcaa gcggatcagc cccaggggtg 600  
atgatgttgt gaagtcgatg taccctccgt tggaccccaa actcctggac 650  
gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctggtgac 700  
aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
gtctgcaatt tagtgcttac aggccagcag ctagccatga aggccctgc 900  
cgccatccct ggatggctca gcttagcctt ctactttttc ctatagagtt 950  
agttgtttct caccggtgga gagttcagct gtgtgtgcat agtaaagcag 1000  
gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
taaaattaga atttctggcc tctctcgatc ggtcagaatg tgtggcaatt 1250  
ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
tgtattatct gcctgggtccc tgaggcgtct gggctctctcc tctcccttgc 1400  
aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

Met	Glu	Thr	Val	Val	Ile	Val	Ala	Ile	Gly	Val	Leu	Ala	Thr	Ile
1				5					10					15

Phe	Leu	Ala	Ser	Phe	Ala	Ala	Leu	Val	Leu	Val	Cys	Arg	Gln	Arg
			20						25					30

Tyr	Cys	Arg	Pro	Arg	Asp	Leu	Leu	Gln	Arg	Tyr	Asp	Ser	Lys	Pro
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35	40	45
Ile Val Asp Leu	Ile Gly Ala Met Glu Thr Gln Ser Glu Pro Ser		
	50	55	60
Glu Leu Glu Leu Asp Asp Val Val Ile Thr Asn Pro His Ile Glu		70	75
	65		
Ala Ile Leu Glu Asn Glu Asp Trp Ile Glu Asp Ala Ser Gly Leu		85	90
	80		
Met Ser His Cys Ile Ala Ile Leu Lys Ile Cys His Thr Leu Thr		100	105
	95		
Glu Lys Leu Val Ala Met Thr Met Gly Ser Gly Ala Lys Met Lys		115	120
	110		
Thr Ser Ala Ser Val Ser Asp Ile Ile Val Val Ala Lys Arg Ile		130	135
	125		
Ser Pro Arg Val Asp Asp Val Val Lys Ser Met Tyr Pro Pro Leu		145	150
	140		
Asp Pro Lys Leu Leu Asp Ala Arg Thr Thr Ala Leu Leu Leu Ser		160	165
	155		
Val Ser His Leu Val Leu Val Thr Arg Asn Ala Cys His Leu Thr		175	180
	170		
Gly Gly Leu Asp Trp Ile Asp Gln Ser Leu Ser Ala Ala Glu Glu		190	195
	185		
His Leu Glu Val Leu Arg Glu Ala Ala Leu Ala Ser Glu Pro Asp		205	210
	200		
Lys Gly Leu Pro Gly Pro Glu Gly Phe Leu Gln Glu Gln Ser Ala		220	225
	215		

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
 gtttcatttc tcccgactca gtttcccacc ctgggctttc cgagggtgctt 50  
 tcgccgctgt cccaccact gcagccatga tctccttaac ggacacgcag 100  
 aaaattggaa tgggattaac aggatttgga gtgtttttcc tgttcttttg 150  
 aatgattctc ttttttgaca aagcactact ggctattgga aatgttttat 200  
 ttgtagccgg cttgggctttt gtaattgggt tagaaagaac attcagattc 250  
 ttcttccaaa aacataaaat gaaagctaca gggttttttc tgggtggtgt 300

attttagtagtc cttatttggtt ggcctttgat aggcattgato ttcgaaattt 350  
 atggattttt tctcttggtc aggggcttct ttcctgtcgt tgttggttt 400  
 attagaagag tgccagtcct tggatccctc cttaaatttac ctggaattag 450  
 atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500  
 tgaatttgaa gactcattta aaatattgtg ttattttataa agtcatttga 550  
 agaattattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
 tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
 aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
 caagcaaact gagagagggtg aaatccatgt taatgatgct taagaaactc 750  
 ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800  
 ttagagaact gtgggtgcctg tttcttttct ttttattttg aagggtcagg 850  
 agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900  
 tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
 ttgtgtcatt ttaaagtatt aaaaccaagg aaacccaat tttgatgtat 1000  
 ggattacttt tttttgngcn cagggcc 1027

<210> 153  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> N-myristoylation Sites  
 <222> 11-16, 51-56 and 116-121  
 <223> N-myristoylation Sites.

<220>  
 <221> Transmembrane domains  
 <222> 12-30, 33-52, 69-89 and 93-109  
 <223> Transmembrane domains

<220>  
 <221> Aminoacyl-transfer RNA Synthetases.  
 <222> 49-59  
 <223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
 Met Ile Ser Leu Thr Asp Thr Gln Lys Ile Gly Met Gly Leu Thr  
 1 5 10 15  
 Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
 20 25 30  
 Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
 35 40 45  
 Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
 50 55 60



Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val	
				65					70					75	
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu	
				80					85					90	
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val	
				95					100					105	
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn	
				110					115					120	
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn	
				125					130					135	

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154  
 gaagacgtgg cggctctcgc ctgggctggt tcccggcttc atttctcccg 50  
 actcagcttc ccacntggg ctttccgagg tgctttcgcc gctgtcccca 100  
 ccactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc tttggaatga ttctottttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttgta gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300  
 aaaatgaaag ctacaggttt ttttctgggt ggtgtatttg tagtcottat 350  
 tggttggcct ttgataggca tgatcttcga aatttatgga tttttctct 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
 ggcacgaggc tgaaccagc cggctccatc tcagcttctg gtttctaagt 50  
 ccatgtgcc aaggctgcc ggaaggagac gccttctga gtcttgatc 100  
 tttcttctt ctggaaatct ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgtcc acgcatcatg gacctcgcg gactgctgaa gtctcagttc 200  
 ctgtgccacc tggcttctg ctacgtcttt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctcctcct ctggcccatt aacaagcagc 300  
 tcttccggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtgggtg gtcgggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtgggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggtcctg gccaaagaaag agctggccta 550  
 tgtcccaatt atcggctgga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcaggtg gcccgggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtccata 900  
 acggaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgtcgc gcctggctgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttc 1050  
 cagagacgcc catggtgccc ccccggcggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtggt gctctaccct ttcttcagat tcctggctcag 1150  
 catgatcagg agcgggtctt cctgacgct ggccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgtatga tgattggtgt gacggaaatt 1250  
 gacaagggtc ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
 cctctgcata tctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
 tcaaggcgg atggggagga agatgttttg taatcttttt tccccatgt 1500  
 gctttagtgg gctttgggtt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag tcccccttc 1650  
 atcctttggt gotgagtttt ctgtaaccct tggttgccag agataaagt 1700  
 aaaagtgtt taggtgagat gactaaatta tgctccaag aaaaaaaaaa 1750  
 taaagtgtt ttctgggtca aaaaaaaaaa a 1781

<210> 156

<211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 156

Met	Asp	Leu	Ala	Gly	Leu	Leu	Lys	Ser	Gln	Phe	Leu	Cys	His	Leu
1				5					10					15
Val	Phe	Cys	Tyr	Val	Phe	Ile	Ala	Ser	Gly	Leu	Ile	Ile	Asn	Thr
				20					25					30
Ile	Gln	Leu	Phe	Thr	Leu	Leu	Leu	Trp	Pro	Ile	Asn	Lys	Gln	Leu
				35					40					45
Phe	Arg	Lys	Ile	Asn	Cys	Arg	Leu	Ser	Tyr	Cys	Ile	Ser	Ser	Gln
				50					55					60
Leu	Val	Met	Leu	Leu	Glu	Trp	Trp	Ser	Gly	Thr	Glu	Cys	Thr	Ile
				65					70					75
Phe	Thr	Asp	Pro	Arg	Ala	Tyr	Leu	Lys	Tyr	Gly	Lys	Glu	Asn	Ala
				80					85					90
Ile	Val	Val	Leu	Asn	His	Lys	Phe	Glu	Ile	Asp	Phe	Leu	Cys	Gly
				95					100					105
Trp	Ser	Leu	Ser	Glu	Arg	Phe	Gly	Leu	Leu	Gly	Gly	Ser	Lys	Val
				110					115					120
Leu	Ala	Lys	Lys	Glu	Leu	Ala	Tyr	Val	Pro	Ile	Ile	Gly	Trp	Met
				125					130					135
Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln
				140					145					150
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr
				155					160					165
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe
				170					175					180
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys
				185					190					195
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly
				200					205					210
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val
				215					220					225
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu
				230					235					240
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val
				245					250					255
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys
				260					265					270
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln
				275					280					285
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val

290	295	300
Pro Pro Arg Arg	Pro Trp Thr Leu Val	Asn Trp Leu Phe Trp Ala
305	310	315
Ser Leu Val Leu	Tyr Pro Phe Phe Gln	Phe Leu Val Ser Met Ile
320	325	330
Arg Ser Gly Ser	Ser Leu Thr Leu Ala	Ser Phe Ile Leu Val Phe
335	340	345
Phe Val Ala Ser	Val Gly Val Arg Trp	Met Ile Gly Val Thr Glu
350	355	360
Ile Asp Lys Gly	Ser Ala Tyr Gly Asn	Ser Asp Ser Lys Gln Lys
365	370	375

Leu Asn Asp

<210> 157  
 <211> 1849  
 <212> DNA  
 <213> Homo sapiens

<400> 157  
 ctgaggcggc ggtagcatgg agggggagag tacgtcggcg gtgctctcgg 50  
 gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100  
 acggaagggtt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
 tactgattcc caaatggatg atgttgaagt tgtttatata attgacattc 200  
 agaaatatat tccatgctat cagcttttta gcttttataa ttottcaggc 250  
 gaagtaaatg agcaagcact gaagaaaata ttatcaaatg tcaaaaagaa 300  
 tgtggtaggt tggtaacaaat tccgtcgtca ttcagatcag atcatgacgt 350  
 ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400  
 gaccttgttt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
 tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
 acagggtagc tttagtggtt gccaatctgg gcatgtctga acaactgggt 550  
 tataaaactg tatcaggttc ctgtatgtcc actggtttta gccgagcagt 600  
 acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650  
 tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
 atatgcaaaa aagtgggaaga cagtgaacaa gcagtagata aactagtaaa 750  
 ggatgtaaac agattaaaac gagaaattga gaaaaggaga ggagcacaga 800  
 ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850  
 tttctttgtc aggcattacg gacctttttt ccaaattctg aattttcttca 900  
 ttoatgtggt atgtctttta aaaatagaca tgtttctaaa agtagctgta 950

actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000  
cacactgaca ttcttgaagc tagtccagct agtacaccac aaatcattaa 1050  
gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggg 1100  
tgtagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
aaagatgaag ggttttgggt aatattcacg gtctcctaca ttttgatcct 1250  
tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
atctctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcat 1400  
ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450  
tttttttcac ctttcactaa gttgttgagg ggaaggctta cacagacaca 1500  
ttcttttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
tcccagcact tagggaagac aagtcaggag gattgattga agctaggagt 1600  
tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800  
aaatttgcaa aacatcatct aaaatttaaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
<211> 409  
<212> PRT  
<213> Homo sapiens

<400> 158  
Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
1 5 10 15  
Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
20 25 30  
Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
35 40 45  
Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
50 55 60  
Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
65 70 75  
Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
80 85 90  
Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
95 100 105

Ser Asp Gln Ile	Met Thr Phe Arg Glu	Arg Leu Leu His Lys	Asn
110		115	120
Leu Gln Glu His	Phe Ser Asn Gln Asp	Leu Val Phe Leu Leu	Leu
125		130	135
Thr Pro Ser Ile	Ile Thr Glu Ser Cys	Ser Thr His Arg Leu	Glu
140		145	150
His Ser Leu Tyr	Lys Pro Gln Lys Gly	Leu Phe His Arg Val	Pro
155		160	165
Leu Val Val Ala	Asn Leu Gly Met Ser	Glu Gln Leu Gly Tyr	Lys
170		175	180
Thr Val Ser Gly	Ser Cys Met Ser Thr	Gly Phe Ser Arg Ala	Val
185		190	195
Gln Thr His Ser	Ser Lys Phe Phe Glu	Glu Asp Gly Ser Leu	Lys
200		205	210
Glu Val His Lys	Ile Asn Glu Met Tyr	Ala Ser Leu Gln Glu	Glu
215		220	225
Leu Lys Ser Ile	Cys Lys Lys Val Glu	Asp Ser Glu Gln Ala	Val
230		235	240
Asp Lys Leu Val	Lys Asp Val Asn Arg	Leu Lys Arg Glu Ile	Glu
245		250	255
Lys Arg Arg Gly	Ala Gln Ile Gln Ala	Ala Arg Glu Lys Asn	Ile
260		265	270
Gln Lys Asp Pro	Gln Glu Asn Ile Phe	Leu Cys Gln Ala Leu	Arg
275		280	285
Thr Phe Phe Pro	Asn Ser Glu Phe Leu	His Ser Cys Val Met	Ser
290		295	300
Leu Lys Asn Arg	His Val Ser Lys Ser	Ser Cys Asn Tyr Asn	His
305		310	315
His Leu Asp Val	Val Asp Asn Leu Thr	Leu Met Val Glu His	Thr
320		325	330
Asp Ile Pro Glu	Ala Ser Pro Ala Ser	Thr Pro Gln Ile Ile	Lys
335		340	345
His Lys Ala Leu	Asp Leu Asp Asp Arg	Trp Gln Phe Lys Arg	Ser
350		355	360
Arg Leu Leu Asp	Thr Gln Asp Lys Arg	Ser Lys Ala Asn Thr	Gly
365		370	375
Ser Ser Asn Gln	Asp Lys Ala Ser Lys	Met Ser Ser Pro Glu	Thr
380		385	390
Asp Glu Glu Ile	Glu Lys Met Lys Gly	Phe Gly Glu Tyr Ser	Arg
395		400	405
Ser Pro Thr Phe			

<210> 159  
 <211> 2651  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
 ggcacagccg cgcggcggag ggcagagtca gccgagccga gtccagccgg 50  
 acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
 cgccgcccac accctctgcg gtccccgogg cgctgccac ccttccctcc 150  
 ttccccgcgt ccccgctcg ccggccagtc agcttgccgg gttcgctgcc 200  
 ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggcccgc 250  
 cgccgcctcc acgccctcct tctcccctgg cccggcgccct ggcaccgggg 300  
 accgttgccct gacgcgaggc ccagctctac ttttcgcccc gcgtctctc 350  
 cgctgctcg cctcttccac caactccaac tccttctccc tccagctcca 400  
 ctgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
 ttcccgctcg gtcccaaagg tgggaacggc tccgccccgg cccgcacat 500  
 ggcacgggtc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
 ccgcgctgct ggctgccgag ctcaagtcga aaagttgctc ggaagtgcga 600  
 cgtctttacg tgtccaaagg cttcaacaag aacgatgccc cctccacga 650  
 gatcaacggg gatcatttga agatctgtcc ccagggttct acctgctgct 700  
 ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
 agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
 ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850  
 aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
 aattctgagc tatttaaaga tctcttcgta gagttgaaac gttactacgt 950  
 ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000  
 tcctggagcg gatgttccgc ctggtgaact ccagtagca ctttacagat 1050  
 gagtatctgg aatgtgtgag caagtatacg gagcagctga agcccttcgg 1100  
 agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
 cccgtacttt cgctcaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
 gtctccgtgg taaacccac agcccagtg acccatgccc tgttgaagat 1250  
 gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
 actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
 gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
 gctagagggt ctttcaaca ttgaatcggc catggatccc atcgatgtga 1450

agattttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaagggttt tccagggatg tggaccccc aagccctcc cagctggacg 1550  
 aattttctcgt tccatctctg aaagtgcctt cagtgtctgc ttcagaccac 1600  
 atcccccg ggaacgcca accacagcag ctggcactag tttggaccga 1650  
 ctggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700  
 ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaacg 1750  
 gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800  
 gcagtgcag gaaatggatt agccaaccag ggcaacaacc cagagggtcca 1850  
 ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
 ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
 atgtgaggaa gagtgccaat gagaaagccg acagtgtctg tgtccgtcct 2100  
 ggggcacagg cctacctcct cactgtcttc tgcatcttgt tcttggttat 2150  
 gcagagagag tggagataat tctcaaactc tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
 tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
 ttttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
 actgtgcatt gagttggttc ctgctcccc aaaccatggt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgtatg ttttttctc atttcgtttg tgggtttttt 2500  
 tttcaaactg tgatctcgcc ttgtttctta caagcaaacc agggtcctt 2550  
 cttggcacgt aacatgtaag tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650  
 c 2651

<210> 160  
 <211> 556  
 <212> PRT  
 <213> Homo sapiens

<400> 160  
 Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
   1                  5                  10                  15  
 Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
                   20                  25                  30  
 Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



	35	40	45
Asp Ala Pro Leu His Glu Ile Asn Gly Asp His Leu Lys Ile Cys	50	55	60
Pro Gln Gly Ser Thr Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr	65	70	75
Ser Leu Gln Ser Lys Asp Asp Phe Lys Ser Val Val Ser Glu Gln	80	85	90
Cys Asn His Leu Gln Ala Val Phe Ala Ser Arg Tyr Lys Lys Phe	95	100	105
Asp Glu Phe Phe Lys Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu	110	115	120
Asn Asp Met Phe Val Lys Thr Tyr Gly His Leu Tyr Met Gln Asn	125	130	135
Ser Glu Leu Phe Lys Asp Leu Phe Val Glu Leu Lys Arg Tyr Tyr	140	145	150
Val Val Gly Asn Val Asn Leu Glu Glu Met Leu Asn Asp Phe Trp	155	160	165
Ala Arg Leu Leu Glu Arg Met Phe Arg Leu Val Asn Ser Gln Tyr	170	175	180
His Phe Thr Asp Glu Tyr Leu Glu Cys Val Ser Lys Tyr Thr Glu	185	190	195
Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys Leu Gln	200	205	210
Val Thr Arg Ala Phe Val Ala Ala Arg Thr Phe Ala Gln Gly Leu	215	220	225
Ala Val Ala Gly Asp Val Val Ser Lys Val Ser Val Val Asn Pro	230	235	240
Thr Ala Gln Cys Thr His Ala Leu Leu Lys Met Ile Tyr Cys Ser	245	250	255
His Cys Arg Gly Leu Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys	260	265	270
Ser Asn Ile Met Arg Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp	275	280	285
Phe Glu Trp Asn Asn Phe Ile Asp Ala Met Leu Met Val Ala Glu	290	295	300
Arg Leu Glu Gly Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile	305	310	315
Asp Val Lys Ile Ser Asp Ala Ile Met Asn Met Gln Asp Asn Ser	320	325	330
Val Gln Val Ser Gln Lys Val Phe Gln Gly Cys Gly Pro Pro Lys	335	340	345
Pro Leu Pro Ala Gly Arg Ile Ser Arg Ser Ile Ser Glu Ser Ala			

350					355					360				
Phe	Ser	Ala	Arg	Phe	Arg	Pro	His	His	Pro	Glu	Glu	Arg	Pro	Thr
				365					370					375
Thr	Ala	Ala	Gly	Thr	Ser	Leu	Asp	Arg	Leu	Val	Thr	Asp	Val	Lys
				380					385					390
Glu	Lys	Leu	Lys	Gln	Ala	Lys	Lys	Phe	Trp	Ser	Ser	Leu	Pro	Ser
				395					400					405
Asn	Val	Cys	Asn	Asp	Glu	Arg	Met	Ala	Ala	Gly	Asn	Gly	Asn	Glu
				410					415					420
Asp	Asp	Cys	Trp	Asn	Gly	Lys	Gly	Lys	Ser	Arg	Tyr	Leu	Phe	Ala
				425					430					435
Val	Thr	Gly	Asn	Gly	Leu	Ala	Asn	Gln	Gly	Asn	Asn	Pro	Glu	Val
				440					445					450
Gln	Val	Asp	Thr	Ser	Lys	Pro	Asp	Ile	Leu	Ile	Leu	Arg	Gln	Ile
				455					460					465
Met	Ala	Leu	Arg	Val	Met	Thr	Ser	Lys	Met	Lys	Asn	Ala	Tyr	Asn
				470					475					480
Gly	Asn	Asp	Val	Asp	Phe	Phe	Asp	Ile	Ser	Asp	Glu	Ser	Ser	Gly
				485					490					495
Glu	Gly	Ser	Gly	Ser	Gly	Cys	Glu	Tyr	Gln	Gln	Cys	Pro	Ser	Glu
				500					505					510
Phe	Asp	Tyr	Asn	Ala	Thr	Asp	His	Ala	Gly	Lys	Ser	Ala	Asn	Glu
				515					520					525
Lys	Ala	Asp	Ser	Ala	Gly	Val	Arg	Pro	Gly	Ala	Gln	Ala	Tyr	Leu
				530					535					540
Leu	Thr	Val	Phe	Cys	Ile	Leu	Phe	Leu	Val	Met	Gln	Arg	Glu	Trp
				545					550					555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgccctca aatgggaacg ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca ccgacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgetgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgagggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacattctca 550  
gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600  
actctccac tgtaccaccc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttcttctct 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaaact gtagcttcct agctagtgtc atttaacctt 800  
aatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttgggtcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50  
 ggaagcacag ctgagagctg gtctgccatg gacatcctgg tcccactcct 100  
 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcaggggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctcttgagga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
 ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600  
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 gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg ccagttctc cgaaatcaa atggaacgac 750  
 agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
 cagcctccaa ttagaacaag ccaccacca gcctatctat cttccactga 900  
 gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgccttc 1000  
 gacagtga aaagctctact tctacgctga ccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttcgttc ccatggtaaa gctcctctcg 1150  
ctttcctcct gaggctacac ccatgcgtct ctaggaactg gtcacaaaag 1200  
tcatggtgcc tgcattccctg ccaagcccc ctgacctct ctccccacta 1250  
ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatatTTTT 1350  
taataaatag acgaaaccac g 1371

<210> 169  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 169  
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1 5 10 15  
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20 25 30  
Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro  
35 40 45  
Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser  
50 55 60  
Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu  
65 70 75  
Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro  
80 85 90  
Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys  
95 100 105  
Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu  
110 115 120  
Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp  
125 130 135  
Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val  
140 145 150  
Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg  
155 160 165  
Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr  
170 175 180  
Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp  
185 190 195  
Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys  
200 205 210  
Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln  
215 220 225

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
230 235 240

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
245 250 255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
260 265 270

Tyr Leu Pro Leu Arg Gly Thr  
275

<210> 170  
<211> 1621  
<212> DNA  
<213> Homo sapiens

<400> 170  
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cctcatcgca ggcagatgtt ggggctttgt ccgaacagct cccctctgcc 100  
agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
ctcttcttac tggttttgca ccataacttc ctcaagtga gcagtttggt 250  
aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
ttgtccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
cctgtgggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
tataaacagc attcagcaca aactcgcct caatgtgatt ttctacattg 450  
ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
tccttgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
ggaaggaaaa gtaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
taacctttgc aaggtttctac ttgccaatc tggttcccag cgcaaagaag 650  
gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
ttacaataca gcaactgaagc caggacatgc agctgcattt tcagaagatt 750  
gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
catgaaagcc agcaattgct catttaatcc tggagttttt gttgcaaacc 900  
tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
cacaacacct cctctgotta tegtatttta tcaacagcac tctaccatcg 1050  
atcctatgtg gaatgtccgc caccttggtt ccagtgtgtg aaaacgatat 1100  
tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggt 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctcaaaca taaagtgaaa cagaatttga actgtaagca agcattttctc 1300  
aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
taaataaaaac ttacattttt c 1621

<210> 171

<211> 371

<212> PRT

<213> Homo sapiens

<400> 171

Met	Ser	Phe	Arg	Lys	Val	Asn	Ile	Ile	Ile	Leu	Val	Leu	Ala	Val
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Ala	Leu	Phe	Leu	Leu	Val	Leu	His	His	Asn	Phe	Leu	Ser	Leu	Ser
				20					25					30
Ser	Leu	Leu	Arg	Asn	Glu	Val	Thr	Asp	Ser	Gly	Ile	Val	Gly	Pro
				35					40					45
Gln	Pro	Ile	Asp	Phe	Val	Pro	Asn	Ala	Leu	Arg	His	Ala	Val	Asp
				50					55					60
Gly	Arg	Gln	Glu	Glu	Ile	Pro	Val	Val	Ile	Ala	Ala	Ser	Glu	Asp
				65					70					75
Arg	Leu	Gly	Gly	Ala	Ile	Ala	Ala	Ile	Asn	Ser	Ile	Gln	His	Asn
				80					85					90
Thr	Arg	Ser	Asn	Val	Ile	Phe	Tyr	Ile	Val	Thr	Leu	Asn	Asn	Thr
				95					100					105
Ala	Asp	His	Leu	Arg	Ser	Trp	Leu	Asn	Ser	Asp	Ser	Leu	Lys	Ser
				110					115					120
Ile	Arg	Tyr	Lys	Ile	Val	Asn	Phe	Asp	Pro	Lys	Leu	Leu	Glu	Gly
				125					130					135
Lys	Val	Lys	Glu	Asp	Pro	Asp	Gln	Gly	Glu	Ser	Met	Lys	Pro	Leu
				140					145					150
Thr	Phe	Ala	Arg	Phe	Tyr	Leu	Pro	Ile	Leu	Val	Pro	Ser	Ala	Lys
				155					160					165
Lys	Ala	Ile	Tyr	Met	Asp	Asp	Asp	Val	Ile	Val	Gln	Gly	Asp	Ile
				170					175					180
Leu	Ala	Leu	Tyr	Asn	Thr	Ala	Leu	Lys	Pro	Gly	His	Ala	Ala	Ala



185										190					195				
Phe	Ser	Glu	Asp	Cys	Asp	Ser	Ala	Ser	Thr	Lys	Val	Val	Ile	Arg					
				200					205					210					
Gly	Ala	Gly	Asn	Gln	Tyr	Asn	Tyr	Ile	Gly	Tyr	Leu	Asp	Tyr	Lys					
				215					220					225					
Lys	Glu	Arg	Ile	Arg	Lys	Leu	Ser	Met	Lys	Ala	Ser	Thr	Cys	Ser					
				230					235					240					
Phe	Asn	Pro	Gly	Val	Phe	Val	Ala	Asn	Leu	Thr	Glu	Trp	Lys	Arg					
				245					250					255					
Gln	Asn	Ile	Thr	Asn	Gln	Leu	Glu	Lys	Trp	Met	Lys	Leu	Asn	Val					
				260					265					270					
Glu	Glu	Gly	Leu	Tyr	Ser	Arg	Thr	Leu	Ala	Gly	Ser	Ile	Thr	Thr					
				275					280					285					
Pro	Pro	Leu	Leu	Ile	Val	Phe	Tyr	Gln	Gln	His	Ser	Thr	Ile	Asp					
				290					295					300					
Pro	Met	Trp	Asn	Val	Arg	His	Leu	Gly	Ser	Ser	Ala	Gly	Lys	Arg					
				305					310					315					
Tyr	Ser	Pro	Gln	Phe	Val	Lys	Ala	Ala	Lys	Leu	Leu	His	Trp	Asn					
				320					325					330					
Gly	His	Leu	Lys	Pro	Trp	Gly	Arg	Thr	Ala	Ser	Tyr	Thr	Asp	Val					
				335					340					345					
Trp	Glu	Lys	Trp	Tyr	Ile	Pro	Asp	Pro	Thr	Gly	Lys	Phe	Asn	Leu					
				350					355					360					
Ile	Arg	Arg	Tyr	Thr	Glu	Ile	Ser	Asn	Ile	Lys									
				365					370										

<210> 172  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 71, 76, 86, 91, 162, 220, 269, 281  
 <223> unknown base

<400> 172  
 tgggtttttgc cccataaatt ccctcagctt gagcagtttg ttaaggaatg 50  
 aggttacaga ttcaggaatt ntaggnctc aacctntaga ntttgtccca 100  
 aatgtttctcc gacatgcagt agatgggaga caagaggaga ttctgtggt 150  
 catcgctgca tntgaagaca ggcttggggg ggccattgca gctataaaca 200  
 gcattcagca caacactcgn tccaatgtga ttttctacat tgttactctc 250  
 aacaatacag cagaccatnt cgggtcctgg ntcaacagtg attccctgaa 300  
 aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350

aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaaccttt 400  
gcaaggttct acttgccaat tctggttccc agcgcaaaga aggccatata 450  
catggatgat gatgtaattg tgcaaggtga tattcttgcc ctttacaata 500  
cagcactgaa gccaggacat gcagctgcat tttcagaaga ttgtgattca 550  
gcctctacta aagttgtcat ccgtggagca ggaaa 585

<210> 173

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 173

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gcggctgcca cggagctaga gggcaagtgt gctcggccca gcgtgcaggg 100  
aacgcgggcg gccagacaac gggctgggct ccggggcctg cggcgcgggc 150  
gctgagctgg cagggcgggt cggggcgcgg gctgcatccg catctcctcc 200  
atcgctgca gtaagggcgg ccgcggcgag cctttgaggg gaacgacttg 250  
tcggagccct aaccaggggt gtctctgagc ctggtgggat ccccgagcgg 300  
tcacatcact ttccgatcac ttcaaagtgg ttaaaaacta atatttatat 350  
gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400  
ctgggctggt gctctcttct tactggtttt gcaccataac ttctcagct 450  
tgaggcagtt tgtaaggaa tgaggttaca gattcaggaa ttgtagggcc 500  
tcaacctata ggactttgtc ccaaagtctc tccgacatgc agtagatggg 550  
agacaagagg agattcctgt ggtcatcgct gcatctgaag acaggcttgg 600  
gggggccatt gcagctataa acagcattca gcacaacact cgctccaatg 650  
tgattttcta cattgttact ctcaacaata cagcagacca tctccggtcc 700  
tgggctcaac agtgattccc tgaaaagcat cagatacaaa attgtcaatt 750  
ttgaccctaa acttttgaa ggaaaagtaa aggaggatcc tgaccagggg 800  
gaatccatga aacctttaac ctttgcaagg ttctacttgc caattctggg 850  
ttcccagcgc aaagaaggcc atatacatgg atgatgatgt aattgtgcaa 900  
ggtgatattc ttgcccttta caatacagca ctgaagccag gacatgcagc 950  
tgcattttca gaagattgtg attcagcctc tactaaagtt gtcacccgtg 1000  
gagcaggaaa ccagtacaat tacattggct atcttgacta taaaaaggaa 1050  
agaattcgta agctttccat gaaagccagc acttgctcat ttaatcctgg 1100  
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aactggaaaa atggatgaaa ctcaatgtag aagagggact gtatagcaga 1200

accctggctg gtagcatcac aacacctcct ctgcttatcg tattttatca 1250  
 acagcactct accatcgatc ctatgtggaa tgtccgccac cttggttcca 1300  
 gtgctggaaa acgatattca cctcagtttg taaaggctgc caagttactc 1350  
 cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
 tgtttgggga aaaatggtat attccagacc caacaggcaa attcaacctt 1450  
 atccgaagat ataccgagat ctcaaacata aagtgaacaa gaatttgaac 1500  
 tgtaagcaag cattttctcag gaagtcctgg aagatagcat gcgtgggaag 1550  
 taacagttgc taggcttcaa tgcctatcgg tagcaagcca tggaaaaaga 1600  
 tgtgtcagct aggtaaagat gacaaactgc cctgtctggc agtcagcttc 1650  
 ccagacagac tatagactat aaatatgtct ccactctgcct taccaagtgt 1700  
 tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
 tcagctagct ggtacagata attcaaaact gctgttggtt ttaattttgt 1800  
 aacctgtggc ctgatctgta aataaaaactt acatttttca ataggtaaaa 1850  
 aaaaaaaaaa aaaaaa 1866

<210> 174  
 <211> 823  
 <212> DNA  
 <213> Homo sapiens

<400> 174  
 ctgcaggtag acatctccac tgcccaggaa tcaactgagcg tgcagacagc 50  
 acagcctcct ctgaaggcgc gccataccag agtcctgcct cggcatgggc 100  
 ctcaaccattg aggcagctcc actgtctgtg ctggtctgag ggtgctgcct 150  
 gtcattggggg cagccatctc ccaggggggc ctcatcgcca tcgtctgcaa 200  
 cggctctcgtg ggcttcttgc tgctgctgct ctgggtcacc ctctgctggg 250  
 cctgccattc tcgtctgcgc acgttgactc tctctctgaa tccagtccca 300  
 actccagccc tggccctctg cctgagaagg cccaccacc ccagaagccc 350  
 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
 tggagcccag gacctaagtc cacctcacct agagcctgga attaggatcc 450  
 cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttggg 500  
 gctggaccca gcggcccaga gtctagccag cttggctcca ataggagctc 550  
 agtggcccta aggagatggg cctgggggtgg gggcttatga gttggtgcta 600  
 gagccagggc catctggact atgtccacc ccaagggcca agggtcaggg 650  
 gccgggtcca ctctttccct aggetgagca cctctaggcc ctctagggtg 700  
 gggaagcaaa ctggaaccca tggcaataat aggagggtgt ccaggctggg 750

ccccccccct ggctcctccca gtgtttgctg gataataaat ggaactatgg 800

ctctaaaaaaa aaaaaaaaaaa aaa 823

<210> 175  
<211> 87  
<212> PRT  
<213> Homo sapiens

<400> 175  
Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys  
1 5 10 15  
Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
20 25 30  
Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45  
Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60  
His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
65 70 75  
Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<210> 176  
<211> 1660  
<212> DNA  
<213> Homo sapiens

<400> 176  
gtttgaattc cttcaactat acccacagtc caaaagcaga ctcaactgtgt 50  
occaggctac cagttcctcc aagcaagtca tttcccttat ttaaccgatg 100  
tgtccctcaa acacctgagt gctactccct atttgcattt gttttgataa 150  
atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200  
gatacaatcc ttggcctgtg taccctcgca ttagccttgt ctttggccat 250  
gatgtttacc ttcagattca tcaccaccct tctggttcac attttcattt 300  
cattgggttat tttgggattg ttgtttgtct gcggtgtttt atgggtggctg 350  
tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400  
aaatatgaag tgcgtgcagg gggttgctat cgtatccaca ggcatcacgg 450  
cagtgtgtct cgtcttgatt ttgtttctca gaaagagaat aaaattgaca 500  
gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550  
gctgttccag ccaactgtga catttgccat cctcattttc ttctgggtcc 600  
tctgggtggc tgtgtgtgtg agcctgggaa ctgcaggagc tgcccagggt 650  
atggaaggcg gccaaagtga atataagccc ctttcgggca ttoggtacat 700  
gtggtcgtac catttaattg gcctcatctg gactagtga ttcattcctt 750

cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850  
 tctcttcttc taccatcaag gaaccgttgt gaaaggggtca tttttaatct 900  
 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950  
 aaagaacagc agcatgggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgtcttg acaaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150  
 ctgctttgga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200  
 tcactgtttt tggaggactc atggctttta actacaatcg ggcattccag 1250  
 gtgtgggcag tccctctgtt attggtagct ttttttgccct acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
 gttttgctgt tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400  
 tttatggatc aagaatttct gagtttcgta aaaaggagca acaaattaaa 1450  
 caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500  
 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
 ggaaaacatt tccttctaag agccatttac agaatagaag atgagaccac 1600  
 tagagaaaag ttagtgaatt tttttttaa agacctaata aaccctattc 1650  
 ttctctcaaaa 1660

<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
 Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu  
 1 5 10 15  
 Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr  
 20 25 30  
 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

	95	100	105
Glu Leu Phe Gln	Ile Thr Asn Lys Ala	Ile Ser Ser Ala Pro	Phe
	110	115	120
Leu Leu Phe Gln	Pro Leu Trp Thr Phe	Ala Ile Leu Ile Phe	Phe
	125	130	135
Trp Val Leu Trp	Val Ala Val Leu Leu	Ser Leu Gly Thr Ala	Gly
	140	145	150
Ala Ala Gln Val	Met Glu Gly Gly Gln	Val Glu Tyr Lys Pro	Leu
	155	160	165
Ser Gly Ile Arg	Tyr Met Trp Ser Tyr	His Leu Ile Gly Leu	Ile
	170	175	180
Trp Thr Ser Glu	Phe Ile Leu Ala Cys	Gln Gln Met Thr Ile	Ala
	185	190	195
Gly Ala Val Val	Thr Cys Tyr Phe Asn	Arg Ser Lys Asn Asp	Pro
	200	205	210
Pro Asp His Pro	Ile Leu Ser Ser Leu	Ser Ile Leu Phe Phe	Tyr
	215	220	225
His Gln Gly Thr	Val Val Lys Gly Ser	Phe Leu Ile Ser Val	Val
	230	235	240
Arg Ile Pro Arg	Ile Ile Val Met Tyr	Met Gln Asn Ala Leu	Lys
	245	250	255
Glu Gln Gln His	Gly Ala Leu Ser Arg	Tyr Leu Phe Arg Cys	Cys
	260	265	270
Tyr Cys Cys Phe	Trp Cys Leu Asp Lys	Tyr Leu Leu His Leu	Asn
	275	280	285
Gln Asn Ala Tyr	Thr Thr Thr Ala Ile	Asn Gly Thr Asp Phe	Cys
	290	295	300
Thr Ser Ala Lys	Asp Ala Phe Lys Ile	Leu Ser Lys Asn Ser	Ser
	305	310	315
His Phe Thr Ser	Ile Asn Cys Phe Gly	Asp Phe Ile Ile Phe	Leu
	320	325	330
Gly Lys Val Leu	Val Val Cys Phe Thr	Val Phe Gly Gly Leu	Met
	335	340	345
Ala Phe Asn Tyr	Asn Arg Ala Phe Gln	Val Trp Ala Val Pro	Leu
	350	355	360
Leu Leu Val Ala	Phe Phe Ala Tyr Leu	Val Ala His Ser Phe	Leu
	365	370	375
Ser Val Phe Glu	Thr Val Leu Asp Ala	Leu Phe Leu Cys Phe	Ala
	380	385	390
Val Asp Leu Glu	Thr Asn Asp Gly Ser	Ser Glu Lys Pro Tyr	Phe
	395	400	405
Met Asp Gln Glu	Phe Leu Ser Phe Val	Lys Arg Ser Asn Lys	Leu

	410	415	420
Asn Asn Ala Arg	Ala Gln Gln Asp Lys	His Ser Leu Arg Asn	Glu
	425	430	435
Glu Gly Thr Glu	Leu Gln Ala Ile Val	Arg	
	440	445	

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
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 ttctcactat gaaggcatct gttattgaaa tgttccttgt tttgctggtg 250  
 actggagtag attcaaaca agaaacggca aagaagatta aaaggcccaa 300  
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<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

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Phe	Leu	Val	Leu	Leu	Val	Thr	Gly	Val	His	Ser	Asn	Lys	Glu	Thr	20	25	30	
Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	35	40	45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	50	55	60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	65	70	75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	80	85	90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	95	100	105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	110	115	120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	125	130	135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	140	145	150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	155	160	165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	170	175	180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	185	190	195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	200	205	210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	215	220	225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	230	235	240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	245	250	255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	260	265	270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	275	280	285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly				

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Ser Thr Ser Ile	Gly 305	Lys Arg Arg Phe	Arg 310	Ile Gln Lys Gln	Leu 315
Leu Ala Asp Val	Ala 320	Gln Ala Leu Asp	Ile 325	Gly Pro Ala Gly	Pro 330
Leu Met Gly Val	Val 335	Gln Tyr Gly Asp	Asn 340	Pro Ala Thr His	Phe 345
Asn Leu Lys Thr	His 350	Thr Asn Ser Arg	Asp 355	Leu Lys Thr Ala	Ile 360
Glu Lys Ile Thr	Gln 365	Arg Gly Gly Leu	Ser 370	Asn Val Gly Arg	Ala 375
Ile Ser Phe Val	Thr 380	Lys Asn Phe Phe	Ser 385	Lys Ala Asn Gly	Asn 390
Arg Ser Gly Ala	Pro 395	Asn Val Val Val	Val 400	Met Val Asp Gly	Trp 405
Pro Thr Asp Lys	Val 410	Glu Glu Ala Ser	Arg 415	Leu Ala Arg Glu	Ser 420
Gly Ile Asn Ile	Phe 425	Phe Ile Thr Ile	Glu 430	Gly Ala Ala Glu	Asn 435
Glu Lys Gln Tyr	Val 440	Val Glu Pro Asn	Phe 445	Ala Asn Lys Ala	Val 450
Cys Arg Thr Asn	Gly 455	Phe Tyr Ser Leu	His 460	Val Gln Ser Trp	Phe 465
Gly Leu His Lys	Thr 470	Leu Gln Pro Leu	Val 475	Lys Arg Val Cys	Asp 480
Thr Asp Arg Leu	Ala 485	Cys Ser Lys Thr	Cys 490	Leu Asn Ser Ala	Asp 495
Ile Gly Phe Val	Ile 500	Asp Gly Ser Ser	Ser 505	Val Gly Thr Gly	Asn 510
Phe Arg Thr Val	Leu 515	Gln Phe Val Thr	Asn 520	Leu Thr Lys Glu	Phe 525
Glu Ile Ser Asp	Thr 530	Asp Thr Arg Ile	Gly 535	Ala Val Gln Tyr	Thr 540
Tyr Glu Gln Arg	Leu 545	Glu Phe Gly Phe	Asp 550	Lys Tyr Ser Ser	Lys 555
Pro Asp Ile Leu	Asn 560	Ala Ile Lys Arg	Val 565	Gly Tyr Trp Ser	Gly 570
Gly Thr Ser Thr	Gly 575	Ala Ala Ile Asn	Phe 580	Ala Leu Glu Gln	Leu 585
Phe Lys Lys Ser	Lys 590	Pro Asn Lys Arg	Lys 595	Leu Met Ile Leu	Ile 600
Thr Asp Gly Arg	Ser Tyr Asp Asp	Val Arg Ile Pro	Ala Met Ala		

	605		610		615
Ala His Leu Lys	Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp			
	620	625		630	
Ala Ala Gln Glu	Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg			
	635	640		645	
Asp His Ser Phe	Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr			
	650	655		660	
Val Pro Arg Ile	Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln			
	665	670		675	

Pro Arg Asn

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

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 gcgctgctgc ctcagcacca tggtgcgcca ggtcccgacg gctccgcgcc 150  
 agatcccgcc cactacagtt tttctctgac tctaattgat gcaactggaca 200  
 ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250  
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 ctgagaatgg ctgaggaggc ggcccgaaaa ctctctccag ctttccagac 450  
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 caggagagac ccctgtcacc tgtaocggcag ggattgggac cttcattggt 550  
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<210> 181

<211> 541

<212> PRT

<213> Homo sapiens

<400> 181

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Leu	Pro	Gln	His	His	Gly	Ala	Pro	Gly	Pro	Asp	Gly	Ser	Ala	Pro
			20						25					30
Asp	Pro	Ala	His	Tyr	Ser	Phe	Ser	Leu	Thr	Leu	Ile	Asp	Ala	Leu
			35						40					45
Asp	Thr	Leu	Leu	Ile	Leu	Gly	Asn	Val	Ser	Glu	Phe	Gln	Arg	Val
			50						55					60
Val	Glu	Val	Leu	Gln	Asp	Ser	Val	Asp	Phe	Asp	Ile	Asp	Val	Asn
			65						70					75
Ala	Ser	Val	Phe	Glu	Thr	Asn	Ile	Arg	Val	Val	Gly	Gly	Leu	Leu
			80						85					90
Ser	Ala	His	Leu	Leu	Ser	Lys	Lys	Ala	Gly	Val	Glu	Val	Glu	Ala
			95						100					105
Gly	Trp	Pro	Cys	Ser	Gly	Pro	Leu	Leu	Arg	Met	Ala	Glu	Glu	Ala
			110						115					120
Ala	Arg	Lys	Leu	Leu	Pro	Ala	Phe	Gln	Thr	Pro	Thr	Gly	Met	Pro

	125		130		135
Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
	140	145			150
Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe Glu			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
	515	520	525		
Phe Thr Ser Lys	Leu Ala Leu Leu Gly	Gln Val Phe Leu Asp	Ser		
	530	535	540		

Ser

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

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 tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttatttt ggaaagaaac aatgtttctag gtcaaactga gtctaccaa 250  
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<210> 183

<211> 311

<212> PRT

<213> Homo sapiens

<220>

<221> Signal peptide

<222> 1-29

<223> Signal peptide

<220>

<221> N-glycosylation sites

<222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

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Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
				20					25					30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
				35					40					45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
				50					55					60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
				65					70					75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
				80					85					90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
				95					100					105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
				110					115					120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
				125					130					135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
				140					145					150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
				155					160					165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
				170					175					180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
				185					190					195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
				200					205					210	
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	
				215					220					225	



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe	
				230					235					240	
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	
				245					250					255	
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	
				260					265					270	
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile	
				275					280					285	
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met	
				290					295					300	
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser					
				305					310						

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
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 cctttctagc ttctggccg gctctagaac aattcaggct tcgctgcgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt totaggtcaa actgagtcta 200  
 ccaaatgcag actttcacaa tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtggtt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gagtacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctggtg ctcaactcact gaaggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggccca 550  
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600  
 agaaactcaa ccataccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggccaacccc ttgcggcgca aggggttngc 750  
 gaacccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgaccac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggctcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggaacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tgggtgctcc tgtgggctgc ggctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctggggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgcccgccg 350  
cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggtg 400  
ctggtgcccc tctgccttc aagtacctgg ccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaagggtgg 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga cccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tcctccacca cctcatcccg cccacctgtg tggggctgac 650  
 caatgcaaac tcaaattggtg cttcaaaggg agagaccac tgactctcct 700  
 tcctttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccacca 900  
 aggcttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcagtgccg gccaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttggtat 1050  
 caataaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189

<211> 187

<212> PRT

<213> Homo sapiens

<400> 189

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Ala	Ala	Cys	Ala	Gln	Gln	Glu	Gln	Asp	Phe	Tyr	Asp	Phe	Lys	Ala
				20					25					30
Val	Asn	Ile	Arg	Gly	Lys	Leu	Val	Ser	Leu	Glu	Lys	Tyr	Arg	Gly
				35					40					45
Ser	Val	Ser	Leu	Val	Val	Asn	Val	Ala	Ser	Glu	Cys	Gly	Phe	Thr
				50					55					60
Asp	Gln	His	Tyr	Arg	Ala	Leu	Gln	Gln	Leu	Gln	Arg	Asp	Leu	Gly
				65					70					75
Pro	His	His	Phe	Asn	Val	Leu	Ala	Phe	Pro	Cys	Asn	Gln	Phe	Gly
				80					85					90
Gln	Gln	Glu	Pro	Asp	Ser	Asn	Lys	Glu	Ile	Glu	Ser	Phe	Ala	Arg
				95					100					105
Arg	Thr	Tyr	Ser	Val	Ser	Phe	Pro	Met	Phe	Ser	Lys	Ile	Ala	Val
				110					115					120
Thr	Gly	Thr	Gly	Ala	His	Pro	Ala	Phe	Lys	Tyr	Leu	Ala	Gln	Thr
				125					130					135
Ser	Gly	Lys	Glu	Pro	Thr	Trp	Asn	Phe	Trp	Lys	Tyr	Leu	Val	Ala
				140					145					150
Pro	Asp	Gly	Lys	Val	Val	Gly	Ala	Trp	Asp	Pro	Thr	Val	Ser	Val

	155	160	165
Glu Glu Val Arg	Pro Gln Ile Thr Ala	Leu Val Arg Lys Leu	Ile
	170	175	180
Leu Leu Lys Arg	Glu Asp Leu		
	185		

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaactgg tgcgctgga gaagtaccgc ggatcggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
 cggacgcgtg ggcgggccgg gacgcagggc aaagcgagcc atggctgtct 50  
 acgtcgggat gctgcgcctg gggaggtgt ggcgcgggag ctcgggggtg 100  
 ctggggggccc gggccgccct ctctcgaggt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttcctcagtt ccagagaggt ggatcgcatg gtctccacgc 200  
 ccatcgagag cctcagctac gttcaggggt gcacaaaaa gcatcttaac 250  
 agcaagactg tgggccagtg cctggagacc acagcacaga gggcccaga 300  
 acgagaggcc ttggtcgtcc tccatgaaga cgtcaggttg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400

ctctgcaaag gtgaccggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaacccagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt cccaagcaa ttcaagacc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
 gcccttttgc cggggaccct gctcctggat gaagtgggtg cggtctggcag 750  
 cacacggcag catctggacc agtccaata caaccagcag ttctgtcct 800  
 gccatgaccc catcaacatc cagttcacct cggggacaac aggcagcccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tctgccccaa cccctgtac cattgctgg gttccgtggc aggcacaatg 1000  
 atgtgtctga tgtacgggtg caccctcacc ctggcctctc ccattcttcaa 1050  
 tggcaagaag gcactggagg ccatcagcag agagagaggc accttctctg 1100  
 atggtacccc cacgatgttc gtggacattc tgaaccagcc agacttctcc 1150  
 agttatgaca tctcgaccat gtgtggagggt gtcattgctg ggtcccctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttgc ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
 ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gagggccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gcccggggag ctgtgcatcc gaggggtactg cgtcatgctg 1450  
 ggctactggg gtgagcctca gaagacagag gaagcagtgg atcaggacaa 1500  
 gtggtatttg acaggagatg tcgccacaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgctctaag gatatgatca tccgggggtg tgagaacatc 1600  
 taccocgcag agctcgagga cttctttcac acacaccga aggtgcagga 1650  
 agtgcagggt gtgggagtga aggacgatcg gatgggggaa gagatttgtg 1700  
 cctgcattcg gctgaaggac ggggaggaga ccacggtgga ggagataaaa 1750  
 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttgtcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccggttggc ttgactctct cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctagatgtcc ccagcaccca gttctgagcc aggcacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attccctgt ctgtccttgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
Met Ala Val Tyr Val Gly Met Leu Arg Leu Gly Arg Leu Cys Ala  
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Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His

245										250					255				
Asp	Pro	Ile	Asn	Ile	Gln	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Ser	Pro					
				260					265					270					
Lys	Gly	Ala	Thr	Leu	Ser	His	Tyr	Asn	Ile	Val	Asn	Asn	Ser	Asn					
				275					280					285					
Ile	Leu	Gly	Glu	Arg	Leu	Lys	Leu	His	Glu	Lys	Thr	Pro	Glu	Gln					
				290					295					300					
Leu	Arg	Met	Ile	Leu	Pro	Asn	Pro	Leu	Tyr	His	Cys	Leu	Gly	Ser					
				305					310					315					
Val	Ala	Gly	Thr	Met	Met	Cys	Leu	Met	Tyr	Gly	Ala	Thr	Leu	Ile					
				320					325					330					
Leu	Ala	Ser	Pro	Ile	Phe	Asn	Gly	Lys	Lys	Ala	Leu	Glu	Ala	Ile					
				335					340					345					
Ser	Arg	Glu	Arg	Gly	Thr	Phe	Leu	Tyr	Gly	Thr	Pro	Thr	Met	Phe					
				350					355					360					
Val	Asp	Ile	Leu	Asn	Gln	Pro	Asp	Phe	Ser	Ser	Tyr	Asp	Ile	Ser					
				365					370					375					
Thr	Met	Cys	Gly	Gly	Val	Ile	Ala	Gly	Ser	Pro	Ala	Pro	Pro	Glu					
				380					385					390					
Leu	Ile	Arg	Ala	Ile	Ile	Asn	Lys	Ile	Asn	Met	Lys	Asp	Leu	Val					
				395					400					405					
Val	Ala	Tyr	Gly	Thr	Thr	Glu	Asn	Ser	Pro	Val	Thr	Phe	Ala	His					
				410					415					420					
Phe	Pro	Glu	Asp	Thr	Val	Glu	Gln	Lys	Ala	Glu	Ser	Val	Gly	Arg					
				425					430					435					
Ile	Met	Pro	His	Thr	Glu	Ala	Arg	Ile	Met	Asn	Met	Glu	Ala	Gly					
				440					445					450					
Thr	Leu	Ala	Lys	Leu	Asn	Thr	Pro	Gly	Glu	Leu	Cys	Ile	Arg	Gly					
				455					460					465					
Tyr	Cys	Val	Met	Leu	Gly	Tyr	Trp	Gly	Glu	Pro	Gln	Lys	Thr	Glu					
				470					475					480					
Glu	Ala	Val	Asp	Gln	Asp	Lys	Trp	Tyr	Trp	Thr	Gly	Asp	Val	Ala					
				485					490					495					
Thr	Met	Asn	Glu	Gln	Gly	Phe	Cys	Lys	Ile	Val	Gly	Arg	Ser	Lys					
				500					505					510					
Asp	Met	Ile	Ile	Arg	Gly	Gly	Glu	Asn	Ile	Tyr	Pro	Ala	Glu	Leu					
				515					520					525					
Glu	Asp	Phe	Phe	His	Thr	His	Pro	Lys	Val	Gln	Glu	Val	Gln	Val					
				530					535					540					
Val	Gly	Val	Lys	Asp	Asp	Arg	Met	Gly	Glu	Glu	Ile	Cys	Ala	Cys					
				545					550					555					
Ile	Arg	Leu	Lys	Asp	Gly	Glu	Glu	Thr	Thr	Val	Glu	Glu	Ile	Lys					

	560		565		570
Ala Phe Cys Lys	Gly Lys Ile Ser His	Phe Lys Ile Pro Lys Tyr			
	575	580		585	
Ile Val Phe Val	Thr Asn Tyr Pro Leu	Thr Ile Ser Gly Lys Ile			
	590	595		600	
Gln Lys Phe Lys	Leu Arg Glu Gln Met	Glu Arg His Leu Asn Leu			
	605	610		615	

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac atttttaggag agcgcootgaa actgcatgag aagacaccag 50  
 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctggggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150  
 ctctcccatc ttcaatggca agaaggcaact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggg acccccacga tgttcgtgga cattctgaac 250  
 cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350  
 taaatatgaa ggacctgggt gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
 cgtgggcaga attatgcctc acacggaggc ggggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacaogcccg gggagctgtg catccgaggg 550  
 tactgctca tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
 gagcaggacg gagccatgga ccccgccagg aaagcaggtg ccaggccat 50  
 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggccctgga gtgctacagc tgctgacaga aagcagatga cggatgctcc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg ccgggctgtg acgtctgcac 200  
 cgaggccgtg ggggcgggtg agaccatcca cggacaattc tcgctggcag 250  
 tgcggggttg cggttcggga ctccccggca agaataccg cggcctggat 300  
 cttcacgggc ttctggcggt catocagctg cagcaatgcg ctgaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
 atgagagtgc atacccgccc aacggcgtgg agtgctacag ctgtgtgggc 450  
 ctgagccggg aggcgtgcc a ggtacatcg ccgccggtcg tgagctgcta 500  
 caacgccagc gatcatgtct acaagggctg cttcgacggc aacgtcacct 550  
 tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
 gatgaattct gcaactcggga tggagtaaca ggcccagggt tcacgctcag 650  
 tggctcctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
 cctacttctc ccctcgaatc ccaccccttg tccggctgcc ccctccagag 750  
 cccacgactg tggcctcaac cacatctgtc accacttcta cctcggcccc 800  
 agtgagaccc acatccacca ccaaaccocat gccagcgcca accagtcaga 850  
 ctccgagaca gggagtagaa cacgaggcct cccgggatga ggagcccagg 900  
 ttgactggag gcgccgctgg ccaccaggac cgcagcaatt cagggcagta 950  
 tcctgcaaaa gggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
 ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgtcta 1050  
 ctgtgagctt ctccacctgg aaatttccct ctacactact tctctggccc 1100  
 tgggtacccc tcttctcatc acttctgtt cccaccactg gactgggctg 1150  
 gccagcccc tgtttttcca acattcccca gtatccccag cttctgctgc 1200  
 gctggtttgc ggctttggga aataaaatac cgttgtatat attctgccag 1250  
 ggggtgtcta gctttttgag gacagctcct gtatccttct catccttgtc 1300  
 tctccgcttg tcctcttgtg atgttaggac agagtgagag aagtcagctg 1350  
 tcacggggaa ggtgagagag aggatgctaa gcttcctact cactttctcc 1400  
 tagccagcct ggactttgga gcgtggggtg ggtgggacaa tggctcccca 1450  
 ctctaagcac tgcctcccct actccccgca tctttgggga atcggttccc 1500  
 catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccggtag 1550  
 ccaattcgcc ctatagttag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

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Ala Gly Trp Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala  
                   20                  25                  30

Leu Glu Cys Tyr Ser Cys Val Gln Lys Ala Asp Asp Gly Cys Ser

35					40					45				
Pro	Asn	Lys	Met	Lys	Thr	Val	Lys	Cys	Ala	Pro	Gly	Val	Asp	Val
				50					55					60
Cys	Thr	Glu	Ala	Val	Gly	Ala	Val	Glu	Thr	Ile	His	Gly	Gln	Phe
				65					70					75
Ser	Leu	Ala	Val	Arg	Gly	Cys	Gly	Ser	Gly	Leu	Pro	Gly	Lys	Asn
				80					85					90
Asp	Arg	Gly	Leu	Asp	Leu	His	Gly	Leu	Leu	Ala	Phe	Ile	Gln	Leu
				95					100					105
Gln	Gln	Cys	Ala	Gln	Asp	Arg	Cys	Asn	Ala	Lys	Leu	Asn	Leu	Thr
				110					115					120
Ser	Arg	Ala	Leu	Asp	Pro	Ala	Gly	Asn	Glu	Ser	Ala	Tyr	Pro	Pro
				125					130					135
Asn	Gly	Val	Glu	Cys	Tyr	Ser	Cys	Val	Gly	Leu	Ser	Arg	Glu	Ala
				140					145					150
Cys	Gln	Gly	Thr	Ser	Pro	Pro	Val	Val	Ser	Cys	Tyr	Asn	Ala	Ser
				155					160					165
Asp	His	Val	Tyr	Lys	Gly	Cys	Phe	Asp	Gly	Asn	Val	Thr	Leu	Thr
				170					175					180
Ala	Ala	Asn	Val	Thr	Val	Ser	Leu	Pro	Val	Arg	Gly	Cys	Val	Gln
				185					190					195
Asp	Glu	Phe	Cys	Thr	Arg	Asp	Gly	Val	Thr	Gly	Pro	Gly	Phe	Thr
				200					205					210
Leu	Ser	Gly	Ser	Cys	Cys	Gln	Gly	Ser	Arg	Cys	Asn	Ser	Asp	Leu
				215					220					225
Arg	Asn	Lys	Thr	Tyr	Phe	Ser	Pro	Arg	Ile	Pro	Pro	Leu	Val	Arg
				230					235					240
Leu	Pro	Pro	Pro	Glu	Pro	Thr	Thr	Val	Ala	Ser	Thr	Thr	Ser	Val
				245					250					255
Thr	Thr	Ser	Thr	Ser	Ala	Pro	Val	Arg	Pro	Thr	Ser	Thr	Thr	Lys
				260					265					270
Pro	Met	Pro	Ala	Pro	Thr	Ser	Gln	Thr	Pro	Arg	Gln	Gly	Val	Glu
				275					280					285
His	Glu	Ala	Ser	Arg	Asp	Glu	Glu	Pro	Arg	Leu	Thr	Gly	Gly	Ala
				290					295					300
Ala	Gly	His	Gln	Asp	Arg	Ser	Asn	Ser	Gly	Gln	Tyr	Pro	Ala	Lys
				305					310					315
Gly	Gly	Pro	Gln	Gln	Pro	His	Asn	Lys	Gly	Cys	Val	Ala	Pro	Thr
				320					325					330
Ala	Gly	Leu	Ala	Ala	Leu	Leu	Leu	Ala	Val	Ala	Ala	Gly	Val	Leu
				335					340					345

Leu

<210> 198  
<211> 1657  
<212> DNA  
<213> Homo sapiens

<400> 198  
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gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
catcaccgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
catcaggtgg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
gcaaattgtc atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
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cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
tctcttagca actggagata caaagcaagg agctggtgag ccagcgttg 1000  
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cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
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cogttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
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ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
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 aacgagagtg ggaactcaac ccagatcccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gacccattgc tgttctctgt 1600  
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 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
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 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
 20 25 30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
 35 40 45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
 50 55 60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
 65 70 75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
 80 85 90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
 95 100 105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
 110 115 120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
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 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 cogttcctga acatcgacaa attgcatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctct ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgcttttct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

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Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu
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Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu
                20             25             30
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn
                35             40             45
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala
                50             55             60
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg
                65             70             75
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly
                80             85             90
Leu Arg Ser Ala Thr Pro Asp Ala Gln
                95
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<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

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cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150
acaggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200
atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgacttcttc 250
atgatttaat aaccatcctt tgcgaagttt tatgaggctt taggggaatg 300
tcaaccctca aatttttggt atactagatg gcttccattt acccaccact 350
attttaaggt ccctttatct ttaggttcaa gggttcattg acttgagaaa 400
gtgcccttct gcagcttcat tgattttggt tatcttcact attaattgta 450
acgattaata aagaataaga gcacgcagac ctctaggaga atattttatc 500
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550
aatttaaagt ttattctaatt attagtagat tcagttgtga tgtaatatga 600
ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650
atttgtagat aaagactgaa tagtgatg 678
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<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
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 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
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 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
 35 40 45  
 Cys Gly Phe Ala Gly His Ser  
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<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
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 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
 agatgatggc agaggtatgc agacggaagc tagggaccca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgttc cctcaagggtg 350  
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 tggagatggg gatcaatgta cgagattatc ctcagggttc taaatggatg 450  
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 tggaaatcta tgaaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttgtggat cactgcaa atacaagtatc gtttaatttt cgaggcgtag 850  
 ctgcaagttt ccggtttaaa cacctcttc tgtgtggctc acttgttttc 900  
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ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
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cgagaaggaa aggttatgat caaattattc ccaaaatgtt gaaaactgaa 1200  
ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
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ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
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gcctctctaa agccaaa 1917

<210> 205

<211> 392

<212> PRT

<213> Homo sapiens

<400> 205

Met	Glu	Trp	Trp	Ala	Ser	Ser	Pro	Leu	Arg	Leu	Trp	Leu	Leu	Leu
1				5					10					15

Phe	Leu	Leu	Pro	Ser	Ala	Gln	Gly	Arg	Gln	Lys	Glu	Ser	Gly	Ser
				20					25					30

Lys	Trp	Lys	Val	Phe	Ile	Asp	Gln	Ile	Asn	Arg	Ser	Leu	Glu	Asn
				35					40					45

Tyr	Glu	Pro	Cys	Ser	Ser	Gln	Asn	Cys	Ser	Cys	Tyr	His	Gly	Val
				50					55					60

Ile	Glu	Glu	Asp	Leu	Thr	Pro	Phe	Arg	Gly	Gly	Ile	Ser	Arg	Lys
				65					70					75

Met	Met	Ala	Glu	Val	Val	Arg	Arg	Lys	Leu	Gly	Thr	His	Tyr	Gln
				80					85					90

Ile	Thr	Lys	Asn	Arg	Leu	Tyr	Arg	Glu	Asn	Asp	Cys	Met	Phe	Pro
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	95	100	105
Ser Arg Cys Ser	Gly Val Glu His Phe	Ile Leu Glu Val Ile	Gly
	110	115	120
Arg Leu Pro Asp	Met Glu Met Val Ile	Asn Val Arg Asp Tyr	Pro
	125	130	135
Gln Val Pro Lys	Trp Met Glu Pro Ala	Ile Pro Val Phe Ser	Phe
	140	145	150
Ser Lys Thr Ser	Glu Tyr His Asp Ile	Met Tyr Pro Ala Trp	Thr
	155	160	165
Phe Trp Glu Gly	Gly Pro Ala Val Trp	Pro Ile Tyr Pro Thr	Gly
	170	175	180
Leu Gly Arg Trp	Asp Leu Phe Arg Glu	Asp Leu Val Arg Ser	Ala
	185	190	195
Ala Gln Trp Pro	Trp Lys Lys Lys Asn	Ser Thr Ala Tyr Phe	Arg
	200	205	210
Gly Ser Arg Thr	Ser Pro Glu Arg Asp	Pro Leu Ile Leu Leu	Ser
	215	220	225
Arg Lys Asn Pro	Lys Leu Val Asp Ala	Glu Tyr Thr Lys Asn	Gln
	230	235	240
Ala Trp Lys Ser	Met Lys Asp Thr Leu	Gly Lys Pro Ala Ala	Lys
	245	250	255
Asp Val His Leu	Val Asp His Cys Lys	Tyr Lys Tyr Leu Phe	Asn
	260	265	270
Phe Arg Gly Val	Ala Ala Ser Phe Arg	Phe Lys His Leu Phe	Leu
	275	280	285
Cys Gly Ser Leu	Val Phe His Val Gly	Asp Glu Trp Leu Glu	Phe
	290	295	300
Phe Tyr Pro Gln	Leu Lys Pro Trp Val	His Tyr Ile Pro Val	Lys
	305	310	315
Thr Asp Leu Ser	Asn Val Gln Glu Leu	Leu Gln Phe Val Lys	Ala
	320	325	330
Asn Asp Asp Val	Ala Gln Glu Ile Ala	Glu Arg Gly Ser Gln	Phe
	335	340	345
Ile Arg Asn His	Leu Gln Met Asp Asp	Ile Thr Cys Tyr Trp	Glu
	350	355	360
Asn Leu Leu Ser	Glu Tyr Ser Lys Phe	Leu Ser Tyr Asn Val	Thr
	365	370	375
Arg Arg Lys Gly	Tyr Asp Gln Ile Ile	Pro Lys Met Leu Lys	Thr
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Glu Leu			

<210> 206



<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206

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ggatgccgc cagggatggc tggctgccct gcaggaccgc agcatccttg 200
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ggtccttcag aggtcactgt atgtggcctg cactgccctg gccttgacgc 350
tggatgatgc gtactgggag ccataccca aaggccctgt gttgtgggag 400
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atgacttggg gctccctgct ctcccgagga agatgctctg caggaaaata 1400
aaagtcagcc tttttctaaa aaaa 1425
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<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe	1	5	10	15
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser	20	25	30	
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp	35	40	45	
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu	50	55	60	
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Leu	Phe	Val	Gly	65	70	75	
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser	80	85	90	
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr	95	100	105	
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro	110	115	120	
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr	125	130	135	
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu	140	145	150	
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met	155	160	165	
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro	170	175	180	
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu	185	190	195	
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val	200	205	210	
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr	215	220	225	
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg	230	235	240	
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg	245	250	255	
Pro	Gln	Asp	Gly	Glu	Ala	Glu	260											

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

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caacaaaaaa cttaagcttt aatttcacat ggaattocac agtttttotta 200  
gctccctgga cccggttgac ctgttggtct tcccgcctgg ctgctctatc 250  
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cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
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 gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600  
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 aaaaaacttc ttactgaag ttatactgaa caaaatttta cctgtttttg 1800  
 gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
 tttaaaatta cttcaacttt gtgtttttta atgttttgac gatttcaata 1900  
 caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
 tacttaactg atcagtttat tattgatata tcactccatt aatgtaaagt 2000  
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 tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
 <211> 331  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
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 Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
 20 25 30  
 Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
 35 40 45  
 Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
 50 55 60  
 Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
 65 70 75  
 Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
 80 85 90  
 Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
 95 100 105  
 Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
 110 115 120  
 Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
 125 130 135  
 Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
 140 145 150  
 Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
 155 160 165

Val Thr Glu Phe Cys Pro Asn Ala Lys Tyr Val Met Lys Thr Asp	170	175	180
Thr Asp Val Phe Ile Asn Thr Gly Asn Leu Val Lys Tyr Leu Leu	185	190	195
Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly Tyr Pro Leu Ile	200	205	210
Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr His Ile Ser	215	220	225
Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys Ser Gly	230	235	240
Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr Glu	245	250	255
Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val	260	265	270
Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu	275	280	285
Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys	290	295	300
Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu	305	310	315
Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His	320	325	330

Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
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 gctggacttc ttggagtctt tctagctcct gccctagcta actataatat 100  
 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
 actctttcaa aagaagacat gcattgtgca caaaatgaac aaggaagtca 300  
 tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcag 350  
 ggtaagggac caggaggacc acctcccaag ggctgatgt actcagtcaa 400  
 cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450  
 tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500  
 ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

ggacatttcc ttctgtggag acacggtgga gaactaaaca atttttttaa 600  
gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
tccagtgggt tttaccatgt cattctgaaa tttttctcta ctagttatgt 700  
ttgatttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
Met Lys Phe Thr Ile Val Phe Ala Gly Leu Leu Gly Val Phe Leu  
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Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
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Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
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atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150  
 tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
 ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
 ataaagtaga ttgagtctcc aattttatgt aagcttcaga agaactgggtt 300  
 tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350  
 gacagtcttc gaaccaatgt gtttgttoga tttcaaccag agactatagc 400  
 atgtgcttgc atctaccttg cagctagagc acttcagatt ccgttgccaa 450  
 ctctgccccca ttggtttctt ctttttggtta ctacagaaga ggaaatccag 500  
 gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550  
 tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc ttacaagaag 600  
 ccaaattaaa agcaaagggg ttgaatccgg atggaactcc agccctttca 650  
 accctgggtg gatttttctc agcctccaag ccatcatcac caagagaagt 700  
 aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750  
 aagaacctga ggatagacaa caggcttoca aaagccotta caatggtgta 800  
 agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
 gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900  
 ataataggcg gagtcgatct ggaacataca gctcgagatc aagaagcagg 950  
 tcccgcagtc acagtgaaag ccctogaaga catcataatc atggttctcc 1000  
 tcaccttaag gccaaagcata ccagagatga tttaaaaagt tcaaacagac 1050  
 atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100  
 gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
 ggacaggcgt gaacgatctc gtccttttga gaggtcccat aaaagcaagc 1200  
 accatggtgg cagtcgctca ggacatggca ggcacaggcg ctgactttct 1250  
 cttcctttga gcctgcatca gttcttgggtt ttgcctatct acagtgtgat 1300  
 gtatggactc aatcaaaaaac attaaacgca aactgattag gatttgattt 1350  
 cttgaaaccc tctaggtctc tagaacaactg aggacagttt cttttgaaaa 1400  
 gaactatgtt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450  
 aaaaaccatg gtcagggttca attgtacttt attatagttg tgtattgttt 1500  
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 atacagataa aattgcagac actgtttotat ttaagtgggtt atttgtttta 1600  
 atgatggtga atactttctt aacactgggtt tgtctgcatg tgtaaagatt 1650  
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aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

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Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu
				20					25					30
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly
				35					40					45
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg
				50					55					60
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu
				65					70					75
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala
				80					85					90
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly
				95					100					105
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys
				110					115					120
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys
				125					130					135
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn
				140					145					150
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala
				155					160					165
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr
				170					175					180
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Tyr
				185					190					195
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro
				200					205					210
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His
				215					220					225
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg
				230					235					240
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser
				245					250					255
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp
				260					265					270
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
 290 295

<210> 214  
 <211> 730  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663  
 <223> unknown base

<400> 214  
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 ggattgtaat atgaaattat ttaaaagggc ttcgctcata tataggaaaa 200  
 togcataatgg tcttagtatt aaattnttat tgcttactga tttttttgag 250  
 ttaagagttg ttatatgnta gaatatgagg atgtgaatat aaataagaga 300  
 agaaaaaaga ataaagtaga ttgagtctcc aattttatgt aagcttcaga 350  
 agaactgggtt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400  
 ttacatgaat gacagtcttc gaaccaatgt gtttgttcga tttcaaccag 450  
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 cggttgccaa ctngtcccca ttggtttctt ctttttggtg ctacagaaga 550  
 ggaaatccag gaaatntgca tagaaacact taggctttat accagaaaaa 600  
 agccaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
 ttacaagaag ccnaattaaa agcaaaggga ttgaatccgg atggaactcc 700  
 agccctttca accctgggtg gattttctcc 730

<210> 215  
 <211> 1807  
 <212> DNA  
 <213> Homo sapiens

<400> 215  
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 acgcgtcatg ggggtcctcg gaggtagct ggtggtgacc ctgctcactg 100  
 ccacctcat gcacaggctg ggcacacact gctccttcgc gcgctggctg 150  
 ctctgtaacg gcagtttggt ccgatacaag caccgctctg aggaggagct 200  
 tcgggccctg gcggggaagc cgaggcccag aggcaggaaa gagcgggtgg 250  
 ccaatggcct tagtgaggag aagccactgt ctgtgccccg agatgccccg 300

ttccagctgg agacctgccc cctcacgacc gtggatgccc tggtcctgcg 350  
 cttcttctctg gagtaccagt ggtttgtgga ctttgcctgtg tactcgggcg 400  
 gcgtgtacct cttcacagag gcctactact acatgctggg accagccaag 450  
 gagactaaca ttgctgtgtt ctgggtgcctg ctcaoggtga ctttctccat 500  
 caagatgttc ctgacagtga cacggctgta cttcagcgcc gaggaggggg 550  
 gtgagcgctc tgtctgcctc acctttgcct tcctcttctt gctgctggcc 600  
 atgctgggtgc aagtgggtgc ggaggagacc ctcgagctgg gcctggagcc 650  
 tggctctggcc agcatgaccc agaacttaga gccacttctg aagaagcagg 700  
 gctgggactg ggcgcttctt gtggccaagc tggctatccg cgtgggactg 750  
 gcagtgggtg gctctgtgct ggggtgcctt ctacacttcc caggcctgcg 800  
 gctggcccag acccaccggg acgcactgac catgtoggag gacagacca 850  
 tgctgcagtt cctcctgcac accagcttcc tgtctccctt gttcatcctg 900  
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 tggggagacg cgtttctccc tgctgtccga ttctgcctt gactctgggc 1000  
 gcctctggtt gctgggtgtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
 cccacctgc aggcctacct gtgcctggcc aaggccggg tggagcagct 1100  
 gogaagggag gctggccgca tcgaagccc tgaaatccag cagaggggtg 1150  
 tccaggtcta ctgctatgtg accgtgggtga gcttgacgta cctgacgccc 1200  
 ctcatctca cctcaactg cacacttctg ctcaagacgc tgggaggcta 1250  
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 ccagcgctgc ccccatcggc tctggggagg acgaagtcca gcagactgca 1350  
 gcgcggttg ccggggccct ggggtggcctg cttactccc tcttctcctg 1400  
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 cctgcagacc ctcttggggc cctgaggtct gttcctgggg cagcgggaca 1550  
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 gcgggactcc cggcggttcc cttcaccaca gtgcctgacc cgcggccccc 1650  
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 atgagggctc cgaggccatt gtctccgaag cgtatgtgcc aggtttgagt 1750  
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 tttttaa 1807

<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216  
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 Thr Leu Met His Arg Leu Ala Pro His Cys Ser Phe Ala Arg Trp  
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 35 40 45  
 Glu Glu Leu Arg Ala Leu Ala Gly Lys Pro Arg Pro Arg Gly Arg  
 50 55 60  
 Lys Glu Arg Trp Ala Asn Gly Leu Ser Glu Glu Lys Pro Leu Ser  
 65 70 75  
 Val Pro Arg Asp Ala Pro Phe Gln Leu Glu Thr Cys Pro Leu Thr  
 80 85 90  
 Thr Val Asp Ala Leu Val Leu Arg Phe Phe Leu Glu Tyr Gln Trp  
 95 100 105  
 Phe Val Asp Phe Ala Val Tyr Ser Gly Gly Val Tyr Leu Phe Thr  
 110 115 120  
 Glu Ala Tyr Tyr Tyr Met Leu Gly Pro Ala Lys Glu Thr Asn Ile  
 125 130 135  
 Ala Val Phe Trp Cys Leu Leu Thr Val Thr Phe Ser Ile Lys Met  
 140 145 150  
 Phe Leu Thr Val Thr Arg Leu Tyr Phe Ser Ala Glu Glu Gly Gly  
 155 160 165  
 Glu Arg Ser Val Cys Leu Thr Phe Ala Phe Leu Phe Leu Leu Leu  
 170 175 180  
 Ala Met Leu Val Gln Val Val Arg Glu Glu Thr Leu Glu Leu Gly  
 185 190 195  
 Leu Glu Pro Gly Leu Ala Ser Met Thr Gln Asn Leu Glu Pro Leu  
 200 205 210  
 Leu Lys Lys Gln Gly Trp Asp Trp Ala Leu Pro Val Ala Lys Leu  
 215 220 225  
 Ala Ile Arg Val Gly Leu Ala Val Val Gly Ser Val Leu Gly Ala  
 230 235 240  
 Phe Leu Thr Phe Pro Gly Leu Arg Leu Ala Gln Thr His Arg Asp  
 245 250 255  
 Ala Leu Thr Met Ser Glu Asp Arg Pro Met Leu Gln Phe Leu Leu  
 260 265 270  
 His Thr Ser Phe Leu Ser Pro Leu Phe Ile Leu Trp Leu Trp Thr  
 275 280 285  
 Lys Pro Ile Ala Arg Asp Phe Leu His Gln Pro Pro Phe Gly Glu

290										295					300				
Thr	Arg	Phe	Ser	Leu	Leu	Ser	Asp	Ser	Ala	Phe	Asp	Ser	Gly	Arg					
				305					310					315					
Leu	Trp	Leu	Leu	Val	Val	Leu	Cys	Leu	Leu	Arg	Leu	Ala	Val	Thr					
				320					325					330					
Arg	Pro	His	Leu	Gln	Ala	Tyr	Leu	Cys	Leu	Ala	Lys	Ala	Arg	Val					
				335					340					345					
Glu	Gln	Leu	Arg	Arg	Glu	Ala	Gly	Arg	Ile	Glu	Ala	Arg	Glu	Ile					
				350					355					360					
Gln	Gln	Arg	Val	Val	Arg	Val	Tyr	Cys	Tyr	Val	Thr	Val	Val	Ser					
				365					370					375					
Leu	Gln	Tyr	Leu	Thr	Pro	Leu	Ile	Leu	Thr	Leu	Asn	Cys	Thr	Leu					
				380					385					390					
Leu	Leu	Lys	Thr	Leu	Gly	Gly	Tyr	Ser	Trp	Gly	Leu	Gly	Pro	Ala					
				395					400					405					
Pro	Leu	Leu	Ser	Pro	Asp	Pro	Ser	Ser	Ala	Ser	Ala	Ala	Pro	Ile					
				410					415					420					
Gly	Ser	Gly	Glu	Asp	Glu	Val	Gln	Gln	Thr	Ala	Ala	Arg	Ile	Ala					
				425					430					435					
Gly	Ala	Leu	Gly	Gly	Leu	Leu	Thr	Pro	Leu	Phe	Leu	Arg	Gly	Val					
				440					445					450					
Leu	Ala	Tyr	Leu	Ile	Trp	Trp	Thr	Ala	Ala	Cys	Gln	Leu	Leu	Ala					
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<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
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 ggaggagctt cgggccctgg cggggaagcc gagggccaga ggcaggaaag 200  
 agcggtagggc caatggcctt agtgaggaga agccactgtc tgtgccccga 250  
 gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
 ggtcctgcgc ttcttctctg agtaccagtg gtttgtggac tttgctgtgt 350

actcgggchg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tgggtgcoctgc tcacagtgc 450  
cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
aggagggggg tgagcgctct gtctgcctca cctttgcctt cctcttcctg 550  
ctgctggcca tgctggtgca agcg 574

<210> 218

<211> 2571

<212> DNA

<213> Homo sapiens

<400> 218

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ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
ggctggtttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccttggct 250  
cagtcctgct aactacattg acaatgtggg caacctgcac ttcctgtatt 300  
cagaactctg taaaggtgcc tcccactacg gcctgaccaa agataggaag 350  
aggcgctcac aagatggctg tccagacggc tgtgcgagcc tcacagccac 400  
ggctccctcc ccagaggttt ctgcagctgc caccatctcc ttaatgacag 450  
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acggcccttt gagagatcca ctattagaag cagatcattt aaaaaataa 600  
atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650  
aaccatgccg accagggcag ggaaaattct gaaaacacca ctgcccctga 700  
agtctttcca aggttgtacc acctgattcc agatggtgaa attaccagca 750  
tcaagatcaa tcgagtagat ccagtgaaa gcctctctat taggctggtg 800  
ggaggtagcg aaaccccact ggtccatatc attatccaac acatttatcg 850  
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cttcaatgtg ctggatggcg gtgtggcata tcgacatggt cagcttgagg 1200

agaatgaccg tgtgttagcc atcaatggac atgatcttog atatggcagc 1250  
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 aacactccca agccccctcca tcctacaatt acttgtcatg agaaggtggt 1450  
 aaatatccaa aaagaccccc gtgaatctct cggcatgacc gtcgcagggg 1500  
 gagcatcaca tagagaatgg gatttgcccta tctatgtcat cagtgttgag 1550  
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 gttgaatgtg gatgggggtc aactgacaga ggtcagccgg agtgaggcag 1650  
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 tgtggctgga attaccacgg tgcttgata actgtaaaga tattgtatta 1850  
 cgaagaaaca cagctggaag tctgggcttc tgcattgtag gaggttatga 1900  
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 caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000  
 gtcaatggta gaagtacatc aggaatgata catgcttgct tggcaagact 2050  
 gctgaaagaa cttaaaggaa gaattactct aactattggt tcttggcctg 2100  
 gcactttttt atagaatcaa tgatgggtca gaggaaaaca gaaaaatcac 2150  
 aaataggcta agaagttgaa acactatatt tatcttgtca gtttttatat 2200  
 ttaaagaaag aatacattgt aaaaatgtca ggaaaagtat gatcatctaa 2250  
 tgaaagccag ttacacctca gaaaatatga ttccaaaaaa attaaaacta 2300  
 ctagtttttt ttcagtgtgg aggatttctc attactctac aacattgttt 2350  
 atattttttc tattcaataa aaagccctaa aacaactaaa atgattgatt 2400  
 tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450  
 ctgaagtctg ccaagggtac attatggoca tttttaattt acagctaaaa 2500  
 tattttttta aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550  
 aaatatTTTT cagaagttaa a 2571

<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala

1	5	10	15
Asn Tyr Ile Asp	Asn Val Gly Asn Leu	His Phe Leu Tyr Ser	Glu 30
	20	25	
Leu Cys Lys Gly	Ala Ser His Tyr Gly	Leu Thr Lys Asp Arg	Lys 45
	35	40	
Arg Arg Ser Gln	Asp Gly Cys Pro Asp	Gly Cys Ala Ser Leu	Thr 60
	50	55	
Ala Thr Ala Pro	Ser Pro Glu Val Ser	Ala Ala Ala Thr Ile	Ser 75
	65	70	
Leu Met Thr Asp	Glu Pro Gly Leu Asp	Asn Pro Ala Tyr Val	Ser 90
	80	85	
Ser Ala Glu Asp	Gly Gln Pro Ala Ile	Ser Pro Val Asp Ser	Gly 105
	95	100	
Arg Ser Asn Arg	Thr Arg Ala Arg Pro	Phe Glu Arg Ser Thr	Ile 120
	110	115	
Arg Ser Arg Ser	Phe Lys Lys Ile Asn	Arg Ala Leu Ser Val	Leu 135
	125	130	
Arg Arg Thr Lys	Ser Gly Ser Ala Val	Ala Asn His Ala Asp	Gln 150
	140	145	
Gly Arg Glu Asn	Ser Glu Asn Thr Thr	Ala Pro Glu Val Phe	Pro 165
	155	160	
Arg Leu Tyr His	Leu Ile Pro Asp Gly	Glu Ile Thr Ser Ile	Lys 180
	170	175	
Ile Asn Arg Val	Asp Pro Ser Glu Ser	Leu Ser Ile Arg Leu	Val 195
	185	190	
Gly Gly Ser Glu	Thr Pro Leu Val His	Ile Ile Ile Gln His	Ile 210
	200	205	
Tyr Arg Asp Gly	Val Ile Ala Arg Asp	Gly Arg Leu Leu Pro	Gly 225
	215	220	
Asp Ile Ile Leu	Lys Val Asn Gly Met	Asp Ile Ser Asn Val	Pro 240
	230	235	
His Asn Tyr Ala	Val Arg Leu Leu Arg	Gln Pro Cys Gln Val	Leu 255
	245	250	
Trp Leu Thr Val	Met Arg Glu Gln Lys	Phe Arg Ser Arg Asn	Asn 270
	260	265	
Gly Gln Ala Pro	Asp Ala Tyr Arg Pro	Arg Asp Asp Ser Phe	His 285
	275	280	
Val Ile Leu Asn	Lys Ser Ser Pro Glu	Glu Gln Leu Gly Ile	Lys 300
	290	295	
Leu Val Arg Lys	Val Asp Glu Pro Gly	Val Phe Ile Phe Asn	Val 315
	305	310	
Leu Asp Gly Gly	Val Ala Tyr Arg His	Gly Gln Leu Glu Glu	Asn

320					325					330				
Asp	Arg	Val	Leu	Ala	Ile	Asn	Gly	His	Asp	Leu	Arg	Tyr	Gly	Ser
				335					340					345
Pro	Glu	Ser	Ala	Ala	His	Leu	Ile	Gln	Ala	Ser	Glu	Arg	Arg	Val
				350					355					360
His	Leu	Val	Val	Ser	Arg	Gln	Val	Arg	Gln	Arg	Ser	Pro	Asp	Ile
				365					370					375
Phe	Gln	Glu	Ala	Gly	Trp	Asn	Ser	Asn	Gly	Ser	Trp	Ser	Pro	Gly
				380					385					390
Pro	Gly	Glu	Arg	Ser	Asn	Thr	Pro	Lys	Pro	Leu	His	Pro	Thr	Ile
				395					400					405
Thr	Cys	His	Glu	Lys	Val	Val	Asn	Ile	Gln	Lys	Asp	Pro	Gly	Glu
				410					415					420
Ser	Leu	Gly	Met	Thr	Val	Ala	Gly	Gly	Ala	Ser	His	Arg	Glu	Trp
				425					430					435
Asp	Leu	Pro	Ile	Tyr	Val	Ile	Ser	Val	Glu	Pro	Gly	Gly	Val	Ile
				440					445					450
Ser	Arg	Asp	Gly	Arg	Ile	Lys	Thr	Gly	Asp	Ile	Leu	Leu	Asn	Val
				455					460					465
Asp	Gly	Val	Glu	Leu	Thr	Glu	Val	Ser	Arg	Ser	Glu	Ala	Val	Ala
				470					475					480
Leu	Leu	Lys	Arg	Thr	Ser	Ser	Ser	Ile	Val	Leu	Lys	Ala	Leu	Glu
				485					490					495
Val	Lys	Glu	Tyr	Glu	Pro	Gln	Glu	Asp	Cys	Ser	Ser	Pro	Ala	Ala
				500					505					510
Leu	Asp	Ser	Asn	His	Asn	Met	Ala	Pro	Pro	Ser	Asp	Trp	Ser	Pro
				515					520					525
Ser	Trp	Val	Met	Trp	Leu	Glu	Leu	Pro	Arg	Cys	Leu	Tyr	Asn	Cys
				530					535					540
Lys	Asp	Ile	Val	Leu	Arg	Arg	Asn	Thr	Ala	Gly	Ser	Leu	Gly	Phe
				545					550					555
Cys	Ile	Val	Gly	Gly	Tyr	Glu	Glu	Tyr	Asn	Gly	Asn	Lys	Pro	Phe
				560					565					570
Phe	Ile	Lys	Ser	Ile	Val	Glu	Gly	Thr	Pro	Ala	Tyr	Asn	Asp	Gly
				575					580					585
Arg	Ile	Arg	Cys	Gly	Asp	Ile	Leu	Leu	Ala	Val	Asn	Gly	Arg	Ser
				590					595					600
Thr	Ser	Gly	Met	Ile	His	Ala	Cys	Leu	Ala	Arg	Leu	Leu	Lys	Glu
				605					610					615
Leu	Lys	Gly	Arg	Ile	Thr	Leu	Thr	Ile	Val	Ser	Trp	Pro	Gly	Thr
				620					625					630
Phe	Leu													



<210> 220  
<211> 773  
<212> DNA  
<213> Homo sapiens

<400> 220  
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aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100  
ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150  
gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
agtgacaatt gataatgaaa aaaataccgc catcgttaac atccatgcag 250  
gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
tccagggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
ctggagtctc tgatcaaaga cgtggattgg ttctgcttg ggtcaccat 500  
tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
acacacataa tgtcgggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
ctcttgTTTT atcttttcaa agaaatacat ccttggttta cactcaaaag 700  
tcaaattaaa ttctttccca atgcccacac taattttgag attcagtcag 750  
aaaatataaa tgctgtatTTT ata 773

<210> 221  
<211> 184  
<212> PRT  
<213> Homo sapiens

<400> 221  
Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
1 5 10 15  
Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
20 25 30  
Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
35 40 45  
Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
50 55 60  
Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
65 70 75  
Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
80 85 90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln	95	100	105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr	110	115	120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu	125	130	135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys	140	145	150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys	155	160	165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala	170	175	180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
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 acccaccgag gcatggggct ccctgggctg ttctgcttgg ccgtgctggc 100  
 tgccagcagc ttctccaagg cacgggagga agaaattacc cctgtggtct 150  
 ccattgccta caaagtccctg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcacccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggcgtc ctccacctca ggtgcccattg tggacagtgc 400  
 caggctacag atgcaactggg agctgtggtc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagccacact atcaccaaca gcctgatcgg 550  
 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc ctctctgcg agccagacat cggactggtt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgcccc 700  
 aggtggtgac cagaagatgg aggactggca ggggtcccctg gagagcccca 750  
 tccttgccct gccgctctac aggagcacc gccgtctgag tgaagaggag 800  
 tttggggggt tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtatttggg gttcatgcaa aatgagtgtg 950

ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser	
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Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser	
				20					25					30	
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val	
				35					40					45	
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr	
				50					55					60	
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val	
				65					70					75	
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys	
				80					85					90	
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr	
				95					100					105	
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu	
				110					115					120	
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu	
				125					130					135	
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala	
				140					145					150	
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp	
				155					160					165	
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala	
				170					175					180	
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys	
				185					190					195	
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val	
				200					205					210	
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro	
				215					220					225	
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg	
				230					235					240	
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly	
				245					250					255	
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met						
				260					265						

<210> 224  
<211> 1297  
<212> DNA  
<213> Homo sapiens

<400> 224  
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cttctgctcc tgctgtccgg ctggtcccgg gctggggag cgcacctca 100  
ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
ggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttactat 200  
gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
aaatgtcaca acggcctgga aagcacagaa ccagtgactg agagaggtgg 300  
tggacatact tacagagcaa ctgctgaca ttcagctgga gaattacaca 350  
cccaaggaac cctcaccct gcaggcaagg atgtcttgag agcagaaagc 400  
tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
tcctcctctt tgactcagag aagagaatgt ggacaacggt tcctcctgga 500  
gccagaaaga tgaaagaaaa gtgggagaat gacaaggttg tggccatgtc 550  
cttcattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
atgtcctcag gcacaaccca actcagggcc acagccacca cctcatcct 700  
ttgtgcctc ctcatcatcc tcccctgctt catcctccct ggcatctgag 750  
gagagtcctt tagagtgaca ggttaaagct gatacaaaa ggctcctgtg 800  
agcacgggtct tgatcaaaact cgccttctg tctggccagc tgcccacgac 850  
ctacgggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
ccaatagctc attcactgcc ttgattcctt ttgccaacaa tttaccagc 950  
agttatacct aacatattat gcaatcttct cttggtgcta cctgatggaa 1000  
ttcctgcact taaagttctg gctgactaaa caagatatat cattttcttt 1050  
cttctctttt tgtttgaaa atcaagtact tctttgaatg atgatctctt 1100  
tcttgcaaat gatattgtca gtaaaataat caggttagac ttcagacctc 1150  
tggggattct ttccgtgtcc tgaaagagaa tttttaaat atttaataag 1200  
aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
<211> 246  
<212> PRT  
<213> Homo sapiens

<400> 225

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Met Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu
 1          5          10          15

Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro
20          25          30

His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro
35          40          45

Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr
50          55          60

Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser
65          70          75

Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln
80          85          90

Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu
95          100         105

Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr
110         115         120

Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser
125         130         135

Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu
140         145         150

Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala
155         160         165

Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met
170         175         180

Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu
185         190         195

Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly
200         205         210

Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr
215         220         225

Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys
230         235         240

Phe Ile Leu Pro Gly Ile
245
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<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

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tgctgctagc tgccttgggc ctcacaattt tcattctggt ttctgacttt 100
caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150
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ggttttaatt ttggtggtag cctcaccaca attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctggt gatcaaaaga 250  
 gaatttgat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
 atggcaaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctgggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatattt tcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaaatg catttcctgt atcatccttt tcaataaaact 700  
 gtattcattt tgaaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
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 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
 gttctccttt ccgagccaaa atcccaggcg atggtgaatt atgaacgtgc 50  
 cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100

tgccatcctg ctcccgttcg tctacctcac ggcgcaagtg tggattctgt 150  
 gtgcagccat cgctgctgcc gctcagccg ggcgccagaa ctgcccctcc 200  
 gtttgctcgt gcagtaacca gttcagcaag gtggtgtgca cgcgccgggg 250  
 cctctccgag gtcccgaggt gtattccctc gaacacccgg tacctcaacc 300  
 tcatggagaa caacatccag atgatccagg ccgacacctt ccgccacctc 350  
 caccacctgg aggtcctgca gttgggcagg aactccatcc ggcagattga 400  
 ggtggggggc ttcaacggcc tggccagcct caacaccctg gagctgttcg 450  
 acaactggct gacagtcac cctagcgggg cctttgaata cctgtccaag 500  
 ctgcgggagc tctggcttcg caacaacccc atcgaaagca tcccctctta 550  
 cgcttcaac cgggtgccct cctcatgcg cctggacttg ggggagctca 600  
 agaagctgga gtatatctct gagggagctt ttgaggggct gttcaacctc 650  
 aagtatctga acttgggcat gtgcaacatt aaagacatgc ccaatctcac 700  
 cccctggtg gggctggagg agctggagat gtcaggggaa cacttccttg 750  
 agatcaggcc tggctccttc catggcctga gctccctcaa gaagctctgg 800  
 gtcatgaact cacaggctag cctgattgag cggaatgctt ttgacgggct 850  
 ggcttcactt gtggaactca acttggccca caataacctc tcttctttgc 900  
 cccatgacct ctttaccocg ctgaggtacc tgggtggagt gcactctacac 950  
 cacaaccctt ggaactgtga ttgtgacatt ctgtggctag cctggtggct 1000  
 tcgagagtat ataccacca attccacctg ctgtggccgc tgtcatgctc 1050  
 ccatgcacat gcgaggccgc tacctcgtgg aggtggacca ggccctcctc 1100  
 cagtgtcttg ccccttcat catggacgca cctcgagacc tcaacatttc 1150  
 tgagggctcg atggcagaac ttaagtgtcg gactcccoct atgtcctccg 1200  
 tgaagtgggt gctgcccaat gggacagtgc tcagccacgc ctcccgcac 1250  
 ccaaggatct ctgtcctcaa cgacggcacc ttgaactttt cccacgtgct 1300  
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 tccaactaca gcttcttcac cacagtaaca gtggagacca cggagatctc 1450  
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 gttaccagcc ggcataatcc acctctacca cgggtgctcat tcagactacc 1550  
 cgtgtgcca agcaggtggc agtaccgcg acagacacca ctgacaagat 1600  
 gcagaccagc ctggatgaag tcatgaagac caccaagatc atcattggct 1650  
 gctttgtggc agtgactctg ctagctgccg ccatgttgat tgtctctat 1700

aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
 tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229  
 <211> 653  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Lys Leu Leu Trp Gln Val Thr Val His His His Thr Trp Asn  
 1 5 10 15  
 Ala Ile Leu Leu Pro Phe Val Tyr Leu Thr Ala Gln Val Trp Ile  
 20 25 30  
 Leu Cys Ala Ala Ile Ala Ala Ala Ala Ser Ala Gly Pro Gln Asn  
 35 40 45  
 Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val Val  
 50 55 60  
 Cys Thr Arg Arg Gly Leu Ser Glu Val Pro Gln Gly Ile Pro Ser  
 65 70 75  
 Asn Thr Arg Tyr Leu Asn Leu Met Glu Asn Asn Ile Gln Met Ile  
 80 85 90  
 Gln Ala Asp Thr Phe Arg His Leu His His Leu Glu Val Leu Gln  
 95 100 105  
 Leu Gly Arg Asn Ser Ile Arg Gln Ile Glu Val Gly Ala Phe Asn  
 110 115 120  
 Gly Leu Ala Ser Leu Asn Thr Leu Glu Leu Phe Asp Asn Trp Leu  
 125 130 135  
 Thr Val Ile Pro Ser Gly Ala Phe Glu Tyr Leu Ser Lys Leu Arg  
 140 145 150  
 Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser Tyr  
 155 160 165  
 Ala Phe Asn Arg Val Pro Ser Leu Met Arg Leu Asp Leu Gly Glu  
 170 175 180  
 Leu Lys Lys Leu Glu Tyr Ile Ser Glu Gly Ala Phe Glu Gly Leu



185					190					195				
Phe	Asn	Leu	Lys	Tyr	Leu	Asn	Leu	Gly	Met	Cys	Asn	Ile	Lys	Asp
				200					205					210
Met	Pro	Asn	Leu	Thr	Pro	Leu	Val	Gly	Leu	Glu	Glu	Leu	Glu	Met
				215					220					225
Ser	Gly	Asn	His	Phe	Pro	Glu	Ile	Arg	Pro	Gly	Ser	Phe	His	Gly
				230					235					240
Leu	Ser	Ser	Leu	Lys	Lys	Leu	Trp	Val	Met	Asn	Ser	Gln	Val	Ser
				245					250					255
Leu	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Gly	Leu	Ala	Ser	Leu	Val	Glu
				260					265					270
Leu	Asn	Leu	Ala	His	Asn	Asn	Leu	Ser	Ser	Leu	Pro	His	Asp	Leu
				275					280					285
Phe	Thr	Pro	Leu	Arg	Tyr	Leu	Val	Glu	Leu	His	Leu	His	His	Asn
				290					295					300
Pro	Trp	Asn	Cys	Asp	Cys	Asp	Ile	Leu	Trp	Leu	Ala	Trp	Trp	Leu
				305					310					315
Arg	Glu	Tyr	Ile	Pro	Thr	Asn	Ser	Thr	Cys	Cys	Gly	Arg	Cys	His
				320					325					330
Ala	Pro	Met	His	Met	Arg	Gly	Arg	Tyr	Leu	Val	Glu	Val	Asp	Gln
				335					340					345
Ala	Ser	Phe	Gln	Cys	Ser	Ala	Pro	Phe	Ile	Met	Asp	Ala	Pro	Arg
				350					355					360
Asp	Leu	Asn	Ile	Ser	Glu	Gly	Arg	Met	Ala	Glu	Leu	Lys	Cys	Arg
				365					370					375
Thr	Pro	Pro	Met	Ser	Ser	Val	Lys	Trp	Leu	Leu	Pro	Asn	Gly	Thr
				380					385					390
Val	Leu	Ser	His	Ala	Ser	Arg	His	Pro	Arg	Ile	Ser	Val	Leu	Asn
				395					400					405
Asp	Gly	Thr	Leu	Asn	Phe	Ser	His	Val	Leu	Leu	Ser	Asp	Thr	Gly
				410					415					420
Val	Tyr	Thr	Cys	Met	Val	Thr	Asn	Val	Ala	Gly	Asn	Ser	Asn	Ala
				425					430					435
Ser	Ala	Tyr	Leu	Asn	Val	Ser	Thr	Ala	Glu	Leu	Asn	Thr	Ser	Asn
				440					445					450
Tyr	Ser	Phe	Phe	Thr	Thr	Val	Thr	Val	Glu	Thr	Thr	Glu	Ile	Ser
				455					460					465
Pro	Glu	Asp	Thr	Thr	Arg	Lys	Tyr	Lys	Pro	Val	Pro	Thr	Thr	Ser
				470					475					480
Thr	Gly	Tyr	Gln	Pro	Ala	Tyr	Thr	Thr	Ser	Thr	Thr	Val	Leu	Ile
				485					490					495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

500										505					510				
Thr	Thr	Asp	Lys	Met	Gln	Thr	Ser	Leu	Asp	Glu	Val	Met	Lys	Thr					
				515					520					525					
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Val	Thr	Leu	Leu	Ala					
				530					535					540					
Ala	Ala	Met	Leu	Ile	Val	Phe	Tyr	Lys	Leu	Arg	Lys	Arg	His	Gln					
				545					550					555					
Gln	Arg	Ser	Thr	Val	Thr	Ala	Ala	Arg	Thr	Val	Glu	Ile	Ile	Gln					
				560					565					570					
Val	Asp	Glu	Asp	Ile	Pro	Ala	Ala	Thr	Ser	Ala	Ala	Ala	Thr	Ala					
				575					580					585					
Ala	Pro	Ser	Gly	Val	Ser	Gly	Glu	Gly	Ala	Val	Val	Leu	Pro	Thr					
				590					595					600					
Ile	His	Asp	His	Ile	Asn	Tyr	Asn	Thr	Tyr	Lys	Pro	Ala	His	Gly					
				605					610					615					
Ala	His	Trp	Thr	Glu	Asn	Ser	Leu	Gly	Asn	Ser	Leu	His	Pro	Thr					
				620					625					630					
Val	Thr	Thr	Ile	Ser	Glu	Pro	Tyr	Ile	Ile	Gln	Thr	His	Thr	Lys					
				635					640					645					
Asp	Lys	Val	Gln	Glu	Thr	Gln	Ile												
				650															

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

<400> 230  
 cgctcgggca ccagccgcgg caaggatgga gctggggtgc tggacgcagt 50  
 tggggctcac ttttcttcag ctcccttctca tctcgtcctt gccaaagagag 100  
 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagtgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 ggggaagtgcg gggttataacc atcccttgct gcaggaatga ggagaatgag 250  
 tgtgactcct gcctgatcca ccaggttgt accatctttg aaaactgcaa 300  
 gagctgcoga aatggctcat gggggggtac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaagtctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgcgat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctcactccac gtctcttcc actccgatgg ctccaagaat 700  
 tttgacggtt tccatgccat ttatgaggag atcacagcat gctcctcatc 750  
 cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatccttaca 800  
 agtgtgcctg cttggcaggc tatactgggc agcgtgtga aaatctcctt 850  
 gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900  
 aataacaggg ggccctgggc ttatcaacgg acgccatgct aaaattggca 950  
 ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000  
 aaaagaactt gccagcagaa tggagagtgg tcagggaaac agcccatctg 1050  
 cataaaagcc tgccgagAAC caaagatttc agacctggtg agaaggagag 1100  
 ttottccgat gcaggttcag tcaagggaga caccattaca ccagctatac 1150  
 tcagcggcct tcagcaagca gaaactgcag agtgccccta ccaagaagcc 1200  
 agcccttccc tttggagatc tgcccatggg ataccaacat ctgcataccc 1250  
 agctccagta tgagtgcac tcacccttct accgcgcctt gggcagcagc 1300  
 aggaggacat gtotgaggac tgggaagtgg agtgggcggg caccatcctg 1350  
 catccctatc tgccggaaaa ttgagaacat cactgctcca aagaccaag 1400  
 ggttgcgtg gccgtggcag gcagccatct acaggaggac cagcggggtg 1450  
 catgacggca gcctacacaa gggagcgtgg ttcctagtct gcagcgtgc 1500  
 cctggtgaat gagcgactg tgggtggtgg tgccactgt gttactgacc 1550  
 tggggaaggt caccatgac aagacagcag acctgaaagt tgttttgggg 1600  
 aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650  
 gatttctgct atcattctgc atcccaacta tgaccccatc ctgcttgatg 1700  
 ctgacatgc catcctgaag ctctagaca aggcccgat cagcaccga 1750  
 gtccagccca totgcctgc tgccagtgg gatctcagca cttccttcca 1800  
 ggagtccac atcaactgtg ctggctggaa tgtcctggca gacgtgagga 1850  
 gccctggctt caagaacgac aactgcgct ctggggtggt cagtgtggtg 1900  
 gactcgtgc tgtgtgagga gcagcatgag gaccatggca tcccagtgag 1950  
 tgtcactgat aacatgttct gtgccagtg ggaaccact gcccttctg 2000  
 atatctgcac tgcagagaca ggaggcatcg cggctgtgtc cttcccggga 2050  
 cgagcatctc ctgagccacg ctggcatctg atgggactgg tcagctggag 2100  
 ctatgataaa acatgcagcc acaggctctc cactgccttc accaaggtgc 2150  
 tgccttttaa agactggatt gaaagaaata tgaaatgaac catgctcatg 2200  
 cactccttga gaagtgttc tgtatatccg tctgtacgtg tgtcattgcg 2250

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggcttct gacttcaggg acaaaactca gtgaaggggtg agtagacctc 2350  
cattgctggg aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
aacctctcca ctccactgac ctggtggtct tccccaaactt tcagttatac 2500  
gaatgccatc agcttgacca ggaagatct gggcttcatg aggccccttt 2550  
tgaggctctc aagttctaga gagctgcctg tgggacagcc cagggcagca 2600  
gagctgggat gtggtgcatg cctttgtgta catggccaca gtacagtctg 2650  
gtccttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700  
gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
1 5 10 15  
Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 25 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp	170	175	180
Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile	185	190	195
Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile	200	205	210
Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn	215	220	225
Phe Asp Gly Phe His Ala Ile Tyr Glu Glu Ile Thr Ala Cys Ser	230	235	240
Ser Ser Pro Cys Phe His Asp Gly Thr Cys Val Leu Asp Lys Ala	245	250	255
Gly Ser Tyr Lys Cys Ala Cys Leu Ala Gly Tyr Thr Gly Gln Arg	260	265	270
Cys Glu Asn Leu Leu Glu Glu Arg Asn Cys Ser Asp Pro Gly Gly	275	280	285
Pro Val Asn Gly Tyr Gln Lys Ile Thr Gly Gly Pro Gly Leu Ile	290	295	300
Asn Gly Arg His Ala Lys Ile Gly Thr Val Val Ser Phe Phe Cys	305	310	315
Asn Asn Ser Tyr Val Leu Ser Gly Asn Glu Lys Arg Thr Cys Gln	320	325	330
Gln Asn Gly Glu Trp Ser Gly Lys Gln Pro Ile Cys Ile Lys Ala	335	340	345
Cys Arg Glu Pro Lys Ile Ser Asp Leu Val Arg Arg Arg Val Leu	350	355	360
Pro Met Gln Val Gln Ser Arg Glu Thr Pro Leu His Gln Leu Tyr	365	370	375
Ser Ala Ala Phe Ser Lys Gln Lys Leu Gln Ser Ala Pro Thr Lys	380	385	390
Lys Pro Ala Leu Pro Phe Gly Asp Leu Pro Met Gly Tyr Gln His	395	400	405
Leu His Thr Gln Leu Gln Tyr Glu Cys Ile Ser Pro Phe Tyr Arg	410	415	420
Arg Leu Gly Ser Ser Arg Arg Thr Cys Leu Arg Thr Gly Lys Trp	425	430	435
Ser Gly Arg Ala Pro Ser Cys Ile Pro Ile Cys Gly Lys Ile Glu	440	445	450
Asn Ile Thr Ala Pro Lys Thr Gln Gly Leu Arg Trp Pro Trp Gln	455	460	465
Ala Ala Ile Tyr Arg Arg Thr Ser Gly Val His Asp Gly Ser Leu	470	475	480

His Lys Gly Ala	Trp Phe Leu Val Cys	Ser Gly Ala Leu Val	Asn
485		490	495
Glu Arg Thr Val	Val Val Ala Ala His	Cys Val Thr Asp Leu	Gly
500		505	510
Lys Val Thr Met	Ile Lys Thr Ala Asp	Leu Lys Val Val Leu	Gly
515		520	525
Lys Phe Tyr Arg	Asp Asp Asp Arg Asp	Glu Lys Thr Ile Gln	Ser
530		535	540
Leu Gln Ile Ser	Ala Ile Ile Leu His	Pro Asn Tyr Asp Pro	Ile
545		550	555
Leu Leu Asp Ala	Asp Ile Ala Ile Leu	Lys Leu Leu Asp Lys	Ala
560		565	570
Arg Ile Ser Thr	Arg Val Gln Pro Ile	Cys Leu Ala Ala Ser	Arg
575		580	585
Asp Leu Ser Thr	Ser Phe Gln Glu Ser	His Ile Thr Val Ala	Gly
590		595	600
Trp Asn Val Leu	Ala Asp Val Arg Ser	Pro Gly Phe Lys Asn	Asp
605		610	615
Thr Leu Arg Ser	Gly Val Val Ser Val	Val Asp Ser Leu Leu	Cys
620		625	630
Glu Glu Gln His	Glu Asp His Gly Ile	Pro Val Ser Val Thr	Asp
635		640	645
Asn Met Phe Cys	Ala Ser Trp Glu Pro	Thr Ala Pro Ser Asp	Ile
650		655	660
Cys Thr Ala Glu	Thr Gly Gly Ile Ala	Ala Val Ser Phe Pro	Gly
665		670	675
Arg Ala Ser Pro	Glu Pro Arg Trp His	Leu Met Gly Leu Val	Ser
680		685	690
Trp Ser Tyr Asp	Lys Thr Cys Ser His	Arg Leu Ser Thr Ala	Phe
695		700	705
Thr Lys Val Leu	Pro Phe Lys Asp Trp	Ile Glu Arg Asn Met	Lys
710		715	720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gctcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250  
aaggagtcca tggctaattt ccataagacc ctcatTTtgg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tcccaagcat ctggtggttg gcaggaacag cactgggtac aggttacgtt 800  
acagtggata ttttgggggt gttactgcc taagcagaga gcagtttttc 850  
aaggatgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agtccaaaag aatgaaaatt tcccggtccc 950  
tgctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
aacacaatcc tttatataatc aacatcacag tggatttctg gtttgggtgca 1150  
tgaccctgga tcttttgggtg atgtttggaa gaactgattc tttgtttgca 1200  
ataattttgg cctagagact tcaaataagta gcacacatta agaacctgtt 1250  
acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
ctcctggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
tcattttgat catgaggggtt aaatattgta atatggatac ttgaaggact 1400  
ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
tggttgaagg agattttattt aaatttgaag taatatatta tgggataaaa 1500  
ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
cgtccaaggt agaaaggtag gaagatacaa tactgttatt catttatcct 1600  
gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
gaggggagaa aaggcgacga atcaggacac agtgaacttg ggaatgaaga 1700  
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gttgacaggtg ctgatagcct tcaggggagg acctgccag gtatgccttc 1800  
cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
gtgaaaaagc aaaa 1964

<210> 236  
<211> 344  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Signal peptide  
<222> 1-27  
<223> Signal peptide

<220>  
<221> N-glycosylation sites  
<222> 4-7, 220-223, 335-338  
<223> N-glycosylation sites

<220>  
<221> Xylose isomerase proteins  
<222> 191-201  
<223> Xylose isomerase proteins

<400> 236  
Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	
				260					265					270	
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	
				275					280					285	
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	
				290					295					300	
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	
				305					310					315	
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	
				320					325					330	

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
335 340

<210> 237

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 237

ccttacctca gaggccagag caagc 25

<210> 238

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 238

gagcttcacg cgttctgcgt tcacc 25

<210> 239

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 239

caggaatgta aagctttaca gagggctgcc atcctcggtc cccacc 46

<210> 240

<211> 2567

<212> DNA

<213> Homo sapiens

<400> 240

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gcgcagttc tcgagctcca gctgcattcc ctccgcgtcc gcccacgct 100

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ggagcggtgg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300

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cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450

tgcgcgtgac tgctggatgt gccagcctgt ggccaggggc tttgtggtcc 500

tccccatcac agagttcctc gtgggggacc ttgttgtcac ccagaacact 550

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<210> 241  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
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 Tyr Glu Leu Asn Leu Thr Thr Asp Ser Pro Ala Thr Thr Gly Ala  
 35 40 45  
 Val Val Thr Ile Ser Ala Ser Leu Val Ala Lys Asp Asn Gly Ser  
 50 55 60  
 Leu Ala Leu Pro Ala Asp Ala His Leu Tyr Arg Phe His Trp Ile  
 65 70 75  
 His Thr Pro Leu Val Leu Thr Gly Lys Met Glu Lys Gly Leu Ser  
 80 85 90  
 Ser Thr Ile Arg Val Val Gly His Val Pro Gly Glu Phe Pro Val  
 95 100 105  
 Ser Val Trp Val Thr Ala Ala Asp Cys Trp Met Cys Gln Pro Val  
 110 115 120  
 Ala Arg Gly Phe Val Val Leu Pro Ile Thr Glu Phe Leu Val Gly  
 125 130 135  
 Asp Leu Val Val Thr Gln Asn Thr Ser Leu Pro Trp Pro Ser Ser  
 140 145 150  
 Tyr Leu Thr Lys Thr Val Leu Lys Val Ser Phe Leu Leu His Asp  
 155 160 165  
 Pro Ser Asn Phe Leu Lys Thr Ala Leu Phe Leu Tyr Ser Trp Asp  
 170 175 180  
 Phe Gly Asp Gly Thr Gln Met Val Thr Glu Asp Ser Val Val Tyr  
 185 190 195

Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	
				200					205					210	
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	
				215					220					225	
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	
				230					235					240	
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	
				245					250					255	
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	
				260					265					270	
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	
				275					280					285	
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	
				290					295					300	
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	
				305					310					315	
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	
				320					325					330	
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	
				335					340					345	
Cys	Ala	Thr	Leu	Ile	Thr	Val	Met	Leu	Ala	Phe	Ile	Met	Tyr	Met	
				350					355					360	
Thr	Leu	Arg	Asn	Ala	Thr	Gln	Gln	Lys	Asp	Met	Val	Glu	Asn	Pro	
				365					370					375	
Glu	Pro	Pro	Ser	Gly	Val	Arg	Cys	Cys	Cys	Gln	Met	Cys	Cys	Gly	
				380					385					390	
Pro	Phe	Leu	Leu	Glu	Thr	Pro	Ser	Glu	Tyr	Leu	Glu	Ile	Val	Arg	
				395					400					405	
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Tyr Thr Val

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 242  
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<210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgacccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
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gctcccagat ctgggccgct tgcctcctgc tcctcctcct octogccagc 100  
ctgaccagtg gctctgtttt ccacaaacag acgggacaac ttgcagagct 150  
gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccacttcc ccatctgcat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg ccccggtccc ctcccttcct tatttattcc tgctgcccc 350  
gaacataggt cttggaataa aatggctggt tcttttgttt tccccaaaaa 400  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
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20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr

80

<210> 247

<211> 2359

<212> DNA

<213> Homo sapiens

<400> 247

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agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150
ccttctcggt ttcacatag tgccagccat ttttgagtc tcctttggta 200
tccgcaaact ctacatgaaa agtctgttaa aaatcttgc gtgggctacc 250
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gccattgcc a ggcagggagg acttgtggac ctgctgtggg atgggggcct 1350
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 ggtgaatga 2359

<210> 248  
 <211> 456  
 <212> PRT  
 <213> Homo sapiens

<400> 248  
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 Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
 20 25 30  
 Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
 35 40 45  
 Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
 50 55 60  
 Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
 65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu		80	85	90
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp		95	100	105
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg		110	115	120
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe		125	130	135
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn		140	145	150
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly		155	160	165
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile		170	175	180
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr		185	190	195
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser		200	205	210
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu		215	220	225
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn		230	235	240
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile		245	250	255
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His		260	265	270
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys		275	280	285
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu		290	295	300
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu		305	310	315
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser		320	325	330
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val		335	340	345
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe		350	355	360
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met		365	370	375
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro		380	385	390

Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
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 gccctcgga gcttcggcct ccacacctgg caggcccagg ctgttccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
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 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggtc gagggaaact tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtgtt gcaatgtgga 1050

gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100

gga 1103

<210> 250

<211> 240

<212> PRT

<213> Homo sapiens

<400> 250

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His	Thr	Trp	Gln	Ala	Gln	Ala	Val	Pro	Thr	Ile	Leu	Pro	Leu	Gly	
			20						25					30	
Leu	Ala	Pro	Asp	Thr	Phe	Asp	Asp	Thr	Tyr	Val	Gly	Cys	Ala	Glu	
			35						40					45	
Glu	Met	Glu	Glu	Lys	Ala	Ala	Pro	Leu	Leu	Lys	Glu	Glu	Met	Ala	
			50						55					60	
His	His	Ala	Leu	Leu	Arg	Glu	Ser	Trp	Glu	Ala	Ala	Gln	Glu	Thr	
			65						70					75	
Trp	Glu	Asp	Lys	Arg	Arg	Gly	Leu	Thr	Leu	Pro	Pro	Gly	Phe	Lys	
			80						85					90	
Ala	Gln	Asn	Gly	Ile	Ala	Ile	Met	Val	Tyr	Thr	Asn	Ser	Ser	Asn	
			95						100					105	
Thr	Leu	Tyr	Trp	Glu	Leu	Asn	Gln	Ala	Val	Arg	Thr	Gly	Gly	Gly	
			110						115					120	
Ser	Arg	Glu	Leu	Tyr	Met	Arg	His	Phe	Pro	Phe	Lys	Ala	Leu	His	
			125						130					135	
Phe	Tyr	Leu	Ile	Arg	Ala	Leu	Gln	Leu	Leu	Arg	Gly	Ser	Gly	Gly	
			140						145					150	
Cys	Ser	Arg	Gly	Pro	Gly	Glu	Val	Val	Phe	Arg	Gly	Val	Gly	Ser	
			155						160					165	
Leu	Arg	Phe	Glu	Pro	Lys	Arg	Leu	Gly	Asp	Ser	Val	Arg	Leu	Gly	
			170						175					180	
Gln	Phe	Ala	Ser	Ser	Ser	Leu	Asp	Lys	Ala	Val	Ala	His	Arg	Phe	
			185						190					195	
Gly	Glu	Lys	Arg	Arg	Gly	Cys	Val	Ser	Ala	Pro	Gly	Val	Gln	Leu	
			200						205					210	
Gly	Ser	Gln	Ser	Glu	Gly	Ala	Ser	Ser	Leu	Pro	Pro	Trp	Lys	Thr	
			215						220					225	
Leu	Leu	Leu	Ala	Pro	Gly	Glu	Phe	Gln	Leu	Ser	Gly	Val	Gly	Pro	
			230						235					240	

<210> 251

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

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<210> 252

<211> 1076

<212> DNA

<213> Homo sapiens

<400> 252

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gcctctggac ccgtgaaaga gctggtcggt tccgttggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctacagaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccaccca ggagtaoctg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattgaa 500  
atggggaaga ggatgtgatt tatacctgga aggcctggg gcaagcagcc 550  
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650  
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ccagattcct ccatggctct cctgtgtctc ctgttggtgc cctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
cctaacatat gccccattc tggagagaa acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaa atcggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
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agtgcactcc cctaagtctc tgctca 1076

<210> 253

<211> 335

<212> PRT

<213> Homo sapiens

<400> 253

Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

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Gln Leu Thr Gly	Ser 20	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val 30
Gly Ser Val Gly	Gly 35	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val 45
Lys Gln Val Asp	Ser 50	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu 60
Val Thr Ile Gln	Pro 65	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn 75
Arg Asn Arg Glu	Arg 80	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu 90
Lys Leu Ser Lys	Leu 95	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val 105
Gly Ile Tyr Ser	Ser 110	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr 120
Val Leu His Val	Tyr 125	Glu His Leu Ser	Lys Pro Lys Val Thr Met 135
Gly Leu Gln Ser	Asn 140	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr 150
Cys Cys Met Glu	His 155	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys 165
Ala Leu Gly Gln	Ala 170	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu 180
Pro Ile Ser Trp	Arg 185	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys 195
Val Ala Arg Asn	Pro 200	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu 210
Ala Arg Lys Leu	Cys 215	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser 225
Met Val Leu Leu	Cys 230	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu 240
Phe Val Leu Gly	Leu 245	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln 255
Glu Glu Tyr Ile	Glu 260	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu 270
Thr Pro Asn Ile	Cys 275	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp 285
Thr Ile Pro His	Thr 290	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala 300
Asn Thr Val Tyr	Ser 305	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn 315
Pro His Ser Leu	Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
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ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200  
actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250  
tggaggctac tccctgaagc tcagcaaact gaagaagaat gactcaggga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcaccat 400  
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500  
caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550  
atggggagaa agtgatatga ccttcatctg cgttgccagg aacctgtca 600  
gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaagggtgt 650  
gctgatgacc cagattcctc catggtcctc ctgtgtctcc tgttgggtgcc 700  
cctcctgctc agtctctttg tactggggct atttctttgg tttctgaaga 750  
gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800  
cgggaaactc ctaacatatg ccccatctt ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cgggtttact cactgtggaa ataccgaaa agatggaaaa tccccactca 950  
ctgctcacga tgccagacac accaaggcta ttgcctatg agaatgttat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
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gatgctgctg ctgctgtgtt tgggactgac cctagtctgt gtccatgcag 100  
 aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
 gaatggcata ctattatcct ggcctctgac aaaagagaaa agatagaaga 200  
 acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250  
 ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
 tctatggttg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
 tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
 ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
 gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
 tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
 tatccaatgc caatcgtgc ctccaggccc gagaatgaag aatggcctga 600  
 gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
 tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
 ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
 acctcatcaa gaatcaaaga cttctttaaa tttctctttg atacaccctt 800  
 gacaattttt catgaaatta ttctcttcc tgttcaataa atgattaccc 850  
 ttgcacttaa 860

<210> 256  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 256  
 Met Lys Met Leu Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys  
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 Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val  
 20 25 30  
 Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp  
 35 40 45  
 Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu  
 50 55 60  
 Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His  
 65 70 75  
 Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp  
 80 85 90  
 Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe  
 95 100 105  
 Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met  
 110 115 120

Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257

<211> 766

<212> DNA

<213> Homo sapiens

<400> 257

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ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150
tctcaaaacc ccattctcttg ctttgagtgg tggttcccag gaattatagg 200
agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250
aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300
agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350
ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400
ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450
ttcaacttgc agtggttttt caatgactct tgtgcacctc ctactgggtt 500
caataaacc accagtaacg acaccatggc gagggtgctg agagcatcta 550
gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600
gtatttttag gtctattgct tgttggaatt ctggaggtcc tgtttgggct 650
cagtcagata gtcacgggtt tccttggtg tctgtgtgga gtctctaagc 700
gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750
gtttgaaaaa aaaaaa 766

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<210> 258

<211> 229

<212> PRT

<213> Homo sapiens

<400> 258

Met	Thr	Cys	Cys	Glu	Gly	Trp	Thr	Ser	Cys	Asn	Gly	Phe	Ser	Leu
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Leu	Val	Leu	Leu	Leu	Leu	Gly	Val	Val	Leu	Asn	Ala	Ile	Pro	Leu
				20					25					30
Ile	Val	Ser	Leu	Val	Glu	Glu	Asp	Gln	Phe	Ser	Gln	Asn	Pro	Ile



35										40					45				
Ser	Cys	Phe	Glu	Trp	Trp	Phe	Pro	Gly	Ile	Ile	Gly	Ala	Gly	Leu					
				50					55					60					
Met	Ala	Ile	Pro	Ala	Thr	Thr	Met	Ser	Leu	Thr	Ala	Arg	Lys	Arg					
				65					70					75					
Ala	Cys	Cys	Asn	Asn	Arg	Thr	Gly	Met	Phe	Leu	Ser	Ser	Phe	Phe					
				80					85					90					
Ser	Val	Ile	Thr	Val	Ile	Gly	Ala	Leu	Tyr	Cys	Met	Leu	Ile	Ser					
				95					100					105					
Ile	Gln	Ala	Leu	Leu	Lys	Gly	Pro	Leu	Met	Cys	Asn	Ser	Pro	Ser					
				110					115					120					
Asn	Ser	Asn	Ala	Asn	Cys	Glu	Phe	Ser	Leu	Lys	Asn	Ile	Ser	Asp					
				125					130					135					
Ile	His	Pro	Glu	Ser	Phe	Asn	Leu	Gln	Trp	Phe	Phe	Asn	Asp	Ser					
				140					145					150					
Cys	Ala	Pro	Pro	Thr	Gly	Phe	Asn	Lys	Pro	Thr	Ser	Asn	Asp	Thr					
				155					160					165					
Met	Ala	Ser	Gly	Trp	Arg	Ala	Ser	Ser	Phe	His	Phe	Asp	Ser	Glu					
				170					175					180					
Glu	Asn	Lys	His	Arg	Leu	Ile	His	Phe	Ser	Val	Phe	Leu	Gly	Leu					
				185					190					195					
Leu	Leu	Val	Gly	Ile	Leu	Glu	Val	Leu	Phe	Gly	Leu	Ser	Gln	Ile					
				200					205					210					
Val	Ile	Gly	Phe	Leu	Gly	Cys	Leu	Cys	Gly	Val	Ser	Lys	Arg	Arg					
				215					220					225					
Ser	Gln	Ile	Val																

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
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 gctaccaggc ccatgctctt gtctgccag ctgttgcttc tgagatcaca 150  
 gtctttcttat tcttaagtga cgctgcggta aacctccaag ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaaa gtcttggtgg 300  
 aaatagttaa aaaatgtggt gtgtgacatg taaaaatgct caacctgggt 350  
 tccaaagtct ttcaacgaca ccctgatctt cactaaaaat tgtaaagggt 400

tcaacacggtt gctttaataa atcaattgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met	Arg	Leu	Ser	Val	Cys	Leu	Leu	Met	Val	Ser	Leu	Ala	Leu	Cys
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Cys	Tyr	Gln	Ala	His	Ala	Leu	Val	Cys	Pro	Ala	Val	Ala	Ser	Glu
				20				25						30
Ile	Thr	Val	Phe	Leu	Phe	Leu	Ser	Asp	Ala	Ala	Val	Asn	Leu	Gln
				35				40						45
Val	Ala	Lys	Leu	Asn	Pro	Pro	Pro	Glu	Ala	Leu	Ala	Ala	Lys	Leu
				50				55						60
Glu	Val	Lys	His	Cys	Thr	Asp	Gln	Ile	Ser	Phe	Lys	Lys	Arg	Leu
				65				70						75
Ser	Leu	Lys	Lys	Ser	Trp	Trp	Lys							
				80										

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

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ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150  
cgccccagtg cctctcccc tgcagccctg cccctcgaac tgtgacatgg 200  
agagagtgac cctggccctt ctctactgg caggcctgac tgccttgga 250  
gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300  
aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350  
ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400  
cagcacagtc ctgtacctga gaaggccatc cactcatca ctccaggctc 450  
tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500  
taacactggc cccagcacc tctccctg ggaggcctta tctcaagga 550  
aggacttctc tccaagggca ggctgttagg cccctttctg atcaggaggc 600  
ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262

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Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
20 25 30  
Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
35 40 45  
Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
50 55 60  
Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
65 70 75  
Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
80 85

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

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ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
actcctgctg ctggttgttg gctcctggtt actcgcccg ctcctggctt 150  
ggacctatgc cttctataac aactgcgcgc ggctccagt tttcccacag 200  
ccccCaaaac ggaactggtt ttggggtcac ctgggcctga tcaactctac 250  
agaggaggggc ttgaaggact cgacccagat gtcggccacc tattcccagg 300  
gctttacggt atggctgggt cccatcatcc ccttcacgt tttatgccac 350  
cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcacccaa 400  
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tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500  
gccttcatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550  
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gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650  
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agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800  
cggcgcttcc acagggcctg ccgcctggtg catgacttca cagacgctgt 850  
catccgggag cggcgtcgca ccctccccac tcagggtatt gatgattttt 900  
tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
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 tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
 tgccgacagg aggtgcaaga gcttctgaag gaccgcgac ctaaagagat 1150  
 tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
 agagcctgag gttacatccc ccagctccct tcatctcccg atgctgcacc 1250  
 caggacattg ttctcccaga tggccgagtc atccccaaag gcattacctg 1300  
 cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
 ctgaggtcta cgacccttc cgctttgacc cagagaacag caaggggagg 1400  
 tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
 gcaggcgctt gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
 tgcacttccg gttcctgcca gaccacactg agccccgcag gaagctggaa 1550  
 ttgatcatgc gcgccgagg cggtctttgg ctgcgggtgg agcccctgaa 1600  
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 gtcataata aaacggtgct gtcaaa 1676

<210> 264  
 <211> 524  
 <212> PRT  
 <213> Homo sapiens

<400> 264  
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 Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
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 Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
 35 40 45  
 Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
 50 55 60  
 Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
 65 70 75  
 Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
 80 85 90  
 Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
 95 100 105  
 Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
 110 115 120  
 Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
 125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	
				140					145					150	
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	
				155					160					165	
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	
				170					175					180	
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	
				185					190					195	
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	
				200					205					210	
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	
				215					220					225	
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	
				230					235					240	
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	
				245					250					255	
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	
				260					265					270	
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	
				275					280					285	
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	
				290					295					300	
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	
				305					310					315	
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	
				320					325					330	
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	
				335					340					345	
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	
				350					355					360	
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	
				365					370					375	
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	
				380					385					390	
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	
				395					400					405	
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	
				410					415					420	
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	
				425					430					435	
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	
				440					445					450	

Lys	Gly	Arg	Ser	Pro	Leu	Ala	Phe	Ile	Pro	Phe	Ser	Ala	Gly	Pro
				455					460					465
Arg	Asn	Cys	Ile	Gly	Gln	Ala	Phe	Ala	Met	Ala	Glu	Met	Lys	Val
				470					475					480
Val	Leu	Ala	Leu	Met	Leu	Leu	His	Phe	Arg	Phe	Leu	Pro	Asp	His
				485					490					495
Thr	Glu	Pro	Arg	Arg	Lys	Leu	Glu	Leu	Ile	Met	Arg	Ala	Glu	Gly
				500					505					510
Gly	Leu	Trp	Leu	Arg	Val	Glu	Pro	Leu	Asn	Val	Gly	Leu	Gln	
				515					520					

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct tttcacagga ttcttaaatac ctctcttatac 100  
 tcttctcttc cttgactcca gggaaatatc ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatatatgc cagagatgct ggggtgcagaa agaggggata ttctcaggaa 250  
 agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gactctaaca ttttactgag tcatcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaatactgt gtctgaagtg aaataagcat ctgttagtca gtcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

Met	Tyr	Lys	Leu	Ala	Ser	Cys	Cys	Leu	Leu	Phe	Thr	Gly	Phe	Leu
1				5					10					15
Asn	Pro	Leu	Leu	Ser	Leu	Pro	Leu	Leu	Asp	Ser	Arg	Glu	Ile	Ser
				20					25					30
Phe	Gln	Leu	Ser	Ala	Pro	His	Glu	Asp	Ala	Arg	Leu	Thr	Pro	Glu
				35					40					45
Glu	Leu	Glu	Arg	Ala	Ser	Leu	Leu	Gln	Ile	Leu	Pro	Glu	Met	Leu
				50					55					60

Gly	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Arg	Lys	Ala	Asp	Ser	Ser	Thr	
				65					70					75	
Asn	Ile	Phe	Asn	Pro	Arg	Gly	Asn	Leu	Arg	Lys	Phe	Gln	Asp	Phe	
				80					85					90	
Ser	Gly	Gln	Asp	Pro	Asn	Ile	Leu	Leu	Ser	His	Leu	Leu	Ala	Arg	
				95					100					105	
Ile	Trp	Lys	Pro	Tyr	Lys	Lys	Arg	Glu	Thr	Pro	Asp	Cys	Phe	Trp	
				110					115					120	
Lys	Tyr	Cys	Val												

<210> 267  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

<400> 267  
 gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
 cacctctggg atgggggttc tggtttaaaa caaacgccag tcctcctata 100  
 taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
 acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
 gcctcctgct cctcgcatg ctctggctgg acttgccat ggcaggctcc 250  
 agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtogaa 300  
 gaagccacca gccaaagtgc agccccgagc tctagcaggc tggctccgcc 350  
 cggaagatgg aggtcaagca gaaggggagc aggatgaact ggaagtccgg 400  
 ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
 gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
 aggccaaaga ggccccagcc gacaagtgat cgcccacaag ccttactcac 550  
 ctctctctaa gtttagaagc gctcatctgg cttttcgctt gcttctgcag 600  
 caactccac gactgttgta caagctcagg agggaataa atgttcaaac 650  
 tgta 654

<210> 268  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

Met	Pro	Ser	Pro	Gly	Thr	Val	Cys	Ser	Leu	Leu	Leu	Gly	Met	
1				5					10				15	
Leu	Trp	Leu	Asp	Leu	Ala	Met	Ala	Gly	Ser	Ser	Phe	Leu	Ser	Pro
				20				25					30	
Glu	His	Gln	Arg	Val	Gln	Gln	Arg	Lys	Glu	Ser	Lys	Lys	Pro	Pro
				35				40					45	

Ala	Lys	Leu	Gln	Pro	Arg	Ala	Leu	Ala	Gly	Trp	Leu	Arg	Pro	Glu	50	55	60
Asp	Gly	Gly	Gln	Ala	Glu	Gly	Ala	Glu	Asp	Glu	Leu	Glu	Val	Arg	65	70	75
Phe	Asn	Ala	Pro	Phe	Asp	Val	Gly	Ile	Lys	Leu	Ser	Gly	Val	Gln	80	85	90
Tyr	Gln	Gln	His	Ser	Gln	Ala	Leu	Gly	Lys	Phe	Leu	Gln	Asp	Ile	95	100	105
Leu	Trp	Glu	Glu	Ala	Lys	Glu	Ala	Pro	Ala	Asp	Lys				110	115	

<210> 269  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 269  
 cggccacagc tggcatgctc tgccatgatcg ccatcctgct gtatgtcctc 50  
 gtccagtacc tcgtgaaccc cggggtgctc cgcacggacc ccagatgtca 100  
 agaatatgaa cacgtggctg ctgttcctcc cccgtgtccc ggtgcagggtg 150  
 cagaccctga tagtcgtgat catcgggatg ctctgtctcc tgctggactt 200  
 tcttggcttg gtgcacctgg gccagctgct catottccac atctacctga 250  
 gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300  
 gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
 cagcctctcc cagaagtga atcatggaca aaaagggcaa atcacaggaa 450  
 gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
 gccgagacct gcaggagtgg tgccagggtc ttgaagtaac aagtttaaaa 550  
 tgttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
 aaataaggac aggtggactt ccaaaaacac aagtagaat tctaacaatg 650  
 aaatatatta caggcaggct acccactaac caaacaactg aagcgagagc 700  
 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
 gttgctgaac gacggagggt aaactcccca gccccaagaa aacctgtgtt 800  
 ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggatcatgg 850  
 tgggcccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
 gctgtggcct ctgagggggg ttctgtggac acgggcagca gagtgtgtcc 950  
 aggccagccc ccaagaatgc cctgtcctg acagcttggc caaccctgg 1000  
 tcagggcaga gggagttggg tgggtcaggc tctgggctca cctccatctc 1050



cagagcatcc cctgcctgca gttgtggcaa gaacgccag ctcagaatga 1100  
 acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
 accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200  
 cgcatatctt acagtcactg ttgtcttgcc tgagggttga atttttttta 1250  
 atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
 1 5 10 15  
 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
 accatggcca agatggagct ctcgaaggcc ttctctggcc agcggacact 100  
 cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccctg 200  
 tgcgagaaaag gtctggcagc caagtgcctt gacatgccag tgtccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
 ctggggatga coggttctcc ttccggagct tccggagtgg catgtggcta 350  
 tcctgtgagg aaactgtgga agaaccaggg ga'gaggtgcc gaagtttcat 400  
 tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
 ccacgttgca aggcccatgt caccctactc tccgatttgg aggggaagcgg 500  
 ttgatggaga aggcttccct ccctcccct cccttggggc tttgtggcaa 550  
 aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
 ttcattcagct toctcctgct actaacagac ttgctaactca ctgggaaccc 650  
 tgctgtggg ctcaaactga gcgcctttgc tgctgtttcc tctgtcctgt 700  
 caggctcctt ggggatggtg gccacatga tgtattcaca agtcttccaa 750  
 gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
 tggttgggccc ttctacatgg cctggctctc cttcacctgc tgcattggcgt 850  
 cggtgtcac cacttcaac acgtacacca ggatggtgct ggagttcaag 900  
 tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
 ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
 ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
 gagggagtcg acttctactc cgagctgcgg aacaagggat ttcaaagagg 1100  
 ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
 agtgtttaga gttaagcggg tttggggagt aggccttgagc cctaccttac 1200  
 acgtctgctg attatcaaca tgtgcttaag ccaacatccg tctcttgagc 1250  
 atggttttta gaggctacga ataaggctat gaataagggt tatctttaag 1300  
 tcctaaggga ttcttgggtg ccactgctct cttttcctct acagctccat 1350  
 cttgtttcac ccacccaca tctcacacat ccagaattcc cttctttact 1400  
 gatagtttct gtgccaggtt ctgggctaaa ccatggagat aaaaagaaga 1450  
 gtaaaataca cttcccgacc ttaaggatct gaaa 1484

<210> 272  
 <211> 285  
 <212> PRT  
 <213> Homo sapiens

<400> 272  
 Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr  
 1 5 10 15  
 Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr  
 20 25 30  
 Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

	35	40	45
Pro Lys Pro Leu Cys Glu Lys Gly Leu Ala Ala Lys Cys Phe Asp	50	55	60
Met Pro Val Ser Leu Asp Gly Asp Thr Asn Thr Ser Thr Gln Glu	65	70	75
Val Val Gln Tyr Asn Trp Glu Thr Gly Asp Asp Arg Phe Ser Phe	80	85	90
Arg Ser Phe Arg Ser Gly Met Trp Leu Ser Cys Glu Glu Thr Val	95	100	105
Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe Ile Glu Leu Thr Pro	110	115	120
Pro Ala Lys Arg Gly Glu Lys Gly Leu Leu Glu Phe Ala Thr Leu	125	130	135
Gln Gly Pro Cys His Pro Thr Leu Arg Phe Gly Gly Lys Arg Leu	140	145	150
Met Glu Lys Ala Ser Leu Pro Ser Pro Pro Leu Gly Leu Cys Gly	155	160	165
Lys Asn Pro Met Val Ile Pro Gly Asn Ala Asp His Leu His Arg	170	175	180
Thr Ser Ile His Gln Leu Pro Pro Ala Thr Asn Arg Leu Ala Thr	185	190	195
His Trp Glu Pro Cys Leu Trp Ala Gln Thr Glu Arg Leu Cys Cys	200	205	210
Cys Phe Leu Cys Pro Val Arg Ser Pro Gly Asp Gly Gly Pro His	215	220	225
Asp Val Phe Thr Ser Leu Pro Ser Asp Cys Gln Leu Gly Ser Arg	230	235	240
Arg Leu Glu Thr Thr Cys Leu Glu Leu Trp Leu Gly Leu Leu His	245	250	255
Gly Leu Ala Leu Leu His Leu Leu His Gly Val Gly Cys His His	260	265	270
Leu Gln His Val His Gln Asp Gly Ala Gly Val Gln Val Gln Ala	275	280	285

<210> 273  
 <211> 1158  
 <212> DNA  
 <213> Homo sapiens

<400> 273  
 aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttaccc 50  
 cttggtctcc tgtctttatg tctttctcct cticctattc tgtcatctcc 100  
 ctcaacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150  
 ctctggttagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tctctctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccagggaga aatggaggag cttttagacc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccct 600  
 ggcttggcat ccctggctct ctctgggtac ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgccctga ataataaagt gggaagggga agcagaggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaaggga agcaacagga acttctgcaa ctgggttttta tcggaaagat 850  
 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcaact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaacccagt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgcccatg ccaccaaacc aataaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
<211> 2694  
<212> DNA  
<213> Homo sapiens

<400> 275  
gtagcgcgtc ttgggtctcc cggctgccgc tgctgccgcc gccgcctcgg 50  
gtcgtggagc caggagcgac gtcaccgcca tggcaggcat caaagctttg 100  
attagtttgt cctttggagg agcaatcgga ctgatgtttt tgatgcttgg 150  
atgtgccctt ccaatataca acaaatactg gccctctttt gttctatttt 200  
tttacatcct ttcacctatt ccatactgca tagcaagaag attagtggat 250  
gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tctttcttac 300  
aacgggcatt gtcgtgtcag cttttggact ccctattgta tttgccagag 350  
cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
gtcatctttg caactatact aggccttttc ttggtctttg gaagcaatga 450  
cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500  
atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
gttaatgctg aatggtatag caagcctctt gggggtattt taggtgctcc 600  
cttctcactt ttattgtaag catactattt tcacagagac ttgctgaagg 650  
attaaaagga ttttctcttt tggaaaagct tgactgattt cacacttata 700  
tatagtatgc tttttgtggg gtcctgctga atttaaatat ttatgtgttt 750  
ttcctgttag gttgattttt tttggaatca atatgcaatg ttaaacactt 800  
ttttaatgta atcatttgca ttggttagga attcagaatt ccgccggctc 850  
tattactggt caagtacatc ttttctctta aaattattta gctccatta 900  
ttacaaaaaa ttataaaaat aagttttcag tcagtcagga tgacatcact 950  
cccaatgta tgacagacata cagacggttg gcatacgtta tagactgtat 1000  
actcagtga aatatagctg catttatacc tcagaggggc caagtgttaa 1050  
tgcccatgcc ctccgttaag ggttgttggg tttactggta gacagatgtt 1100  
ttgtggattg aaaattattt tatggaattg ctacagagga gtgcttttct 1150  
tctcaattgt tagaagaatt tatgttaaac ttttaagtaa ggggtgtaaa 1200  
acatttttga gataagggtt ttatttatgt ttattattgt tagagtgagt 1250  
tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
ctatttataa gtgaaatttg tgatctccta tcaacctttc atgtttttacc 1350  
ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
gtttgcatca tatatgccag aaaaccttcc tctgcttcct ccttttgaat 1450

tatttggtat gttgtatata ttacataaaa taacttttca aatatagttt 1500  
aataacactt agaagtgttt acttacctgg aaaataattg ctatgccgta 1550  
cattcagagt gccccctccc ctgcaaggcc ttgccatgat taacaagtaa 1600  
cttgtagtc ttacagataa ttcatgcatt aacagtttaa gatttagacc 1650  
atggtaatag tagttottat tctotaaggt tatatcatat gtaatttaaa 1700  
agtattttta agacaagttt cctgtatacc tctgaactgt tttgattttg 1750  
agttcatcat gatagatctg ctgtttcctt ataaaaggca tttgttgtgt 1800  
gagttaatgc aaagtagcca agtocagcta tatagcagct tcagaaacat 1850  
acctgaccaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
gtttacatct aataattatc aggacttttt tcaggagtgg gttataaaaa 1950  
cattcaagtt ggtctgacag tatttttgta aggatatttg tttgtatgtt 2000  
tattcagtat acttacataa aaattatttc gccatcagcc aaaactcagt 2050  
aatcatgaca gctgtctgtt gttttatgaa gtttatttct caagaaaatg 2100  
ggaataaatt tgggatttgt tcagcttttt tactaaagat gcctaaagcc 2150  
acaggtttta ttgcctaact taagccatga cttttagata tgagatgacg 2200  
ggaagcagga cgaaatatcg gcgtgtggct ggagccttcc cactggaggc 2250  
tgaaagtggc ttgtggtatt ataatgttca gatttcaaga ggaaggtgca 2300  
ggtacacatg agttagagag ctggtgagac agttgggaac tctttgtgct 2350  
tgtgatctac tggacttttt ttttgcagga agtgcattct ctggctcttc 2400  
cctattttct gttctggatg tcagtgcagt gcactgctac tgttttatcc 2450  
acttggccac agactttttc taacagctgc gtattatttc tatatactaa 2500  
ttgcattggc agcatttgtt ctttgacctt gtatactagc ttgacatagt 2550  
gctgtctctg atttctaggc tagttacttg agatatgaat tttccataga 2600  
atatgcactg atacaacatt accattcttc tatggaaaga aaacttttga 2650  
tgatgaaaca ataaagattt taaatatcta ttttaaaaaa aaaa 2694

<210> 276  
<211> 131  
<212> PRT  
<213> Homo sapiens

<400> 276  
Met Ala Gly Ile Lys Ala Leu Ile Ser Leu Ser Phe Gly Gly Ala  
1 5 10 15  
Ile Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr  
20 25 30  
Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser

	35		40		45
Pro Ile Pro Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp					
	50		55		60
Ala Met Ser Asn Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr					
	65		70		75
Gly Ile Val Val Ser Ala Phe Gly Leu Pro Ile Val Phe Ala Arg					
	80		85		90
Ala His Leu Ile Glu Trp Gly Ala Cys Ala Leu Val Leu Thr Gly					
	95		100		105
Asn Thr Val Ile Phe Ala Thr Ile Leu Gly Phe Phe Leu Val Phe					
	110		115		120
Gly Ser Asn Asp Asp Phe Ser Trp Gln Gln Trp					
	125		130		

<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccgcc 50  
 cacgcgtccg cccacgcgtc cgcccacgcg tccggtgcaa gctcgcgccg 100  
 cacactgcct ggtggaggga aggagcccgg gcgcctctcg ccgctccccg 150  
 cgcgcgcgtc cgcacctccc caccgcccgc cgcgcgcgc ccgcccgcgc 200  
 caaagcatga gtgagcccgc tctctgcagc tgcccggggc gcgaatggca 250  
 ggctgtttcc gcggagtaaa aggtggcgcc ggtcagtggc cgtttccaat 300  
 gacggacatt aaccagactg tcagatcctg gggagtgcgc agccccgagt 350  
 ttggagtttt ttccccccac aacgtcacag tccgaactgc agagggaaaag 400  
 gaaggcggca ggaaggcgaa gctcgggctc cggcacgtag ttgggaaaact 450  
 tgcggttcct agaagtcgcc tccccgcctt gccggccgcc cttgcagccc 500  
 cgagccgagc agcaaagtga gacattgtgc gcctgccaga tccgccggcc 550  
 gcggaccggg gctgcctcgg aaacacagag gggctcttct tcgccctgca 600  
 tataattagc ctgcacacaa agggagcagc tgaatggagg ttgtcactct 650  
 ctggaaaagg atttctgacc gagcgcttcc aatggacatt ctccagtctc 700  
 tctggaaaaga ttctcgctaa tggatttcct gctgctcggc ctctgtctat 750  
 actggctgct gaggaggccc tcgggggtgg tcttgtgtct gctggggggc 800  
 tgctttcaga tgtgcccgc cgcgccagc gggtgcccgc agctgtgccg 850  
 gtgcgagggg cggctgctgt actgcgaggc gctcaacctc accgaggcgc 900  
 cccacaacct gtccggcctg ctgggcttgt ccctgcgcta caacagcctc 950

tcggagctgc gcgccggcca gttcacgggg ttaatgcagc tcacgtggct 1000  
 ctatctggat cacaatcaca tctgtccgt gcagggggac gcctttcaga 1050  
 aactgcgccg agttaaggaa ctcacgctga gttccaacca gatcacccaa 1100  
 ctgcccaca ccacctccg gcccatgccc aacctgcgca gcgtggacct 1150  
 ctcgtaaac aagctgcagg cgtcgcgcc cgacctctc cacgggctgc 1200  
 ggaagctcac cacgctgcat atgcgggcca acgcatcca gtttgtgccc 1250  
 gtgcgcatct tccaggactg ccgcagcctc aagtttctcg acatcggata 1300  
 caatcagctc aagagtctgg cgcgcaactc tttcgccggc ttgtttaagc 1350  
 tcaccgagct gcacctcgag cacaacgact tggtaaggt gaacttcgcc 1400  
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 cgcggacggc ggggaggggc agcacgacgg cacattcgag cctgccaccg 1950  
 tggctcttcc aggcgcgag cacgcgaga acgccgtgca gatccacaag 2000  
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 atttgggtct gccattgaca gaatgtcaaa taaaaggaa ttagctagaa 4050  
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 gtca 4104

<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

Met	Asp	Phe	Leu	Leu	Leu	Gly	Leu	Cys	Leu	Tyr	Trp	Leu	Leu	Arg	1	5	10	15
Arg	Pro	Ser	Gly	Val	Val	Leu	Cys	Leu	Leu	Gly	Ala	Cys	Phe	Gln	20	25	30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	35	40	45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	50	55	60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	65	70	75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	80	85	90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	95	100	105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	110	115	120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	125	130	135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	140	145	150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	155	160	165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	170	175	180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	185	190	195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	200	205	210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	215	220	225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	230	235	240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	245	250	255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	260	265	270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	275	280	285	

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu	
				290					295					300	
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu	
				305					310					315	
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser	
				320					325					330	
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro	
				335					340					345	
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe	
				350					355					360	
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu	
				365					370					375	
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser	
				380					385					390	
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr	
				395					400					405	
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu	
				410					415					420	
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu	
				425					430					435	
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp	
				440					445					450	
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val	
				455					460					465	
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met	
				470					475					480	
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn	
				485					490					495	
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys	
				500					505					510	
Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val				
				515					520						

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

tccgtgcagg gggacgcctt tcagaaactg cgccgagtta aggaac 46

<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

<400> 280  
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 ctgcagctct gcgcactgac ccaggcggtc tccaaactct gggcccccaa 100  
 cacggacttc gacgtcgag ccaactggag ccagaaccgg acccctgctg 150  
 ccggcgggcg cgttgagttc ccggcggaaca agatgggtgtc agtcctggtg 200  
 caagaaggtc acgccgtctc agacatgctc ctgccgctgg atgggggaact 250  
 cgtcctgggtc tcaggagccg gattcggtgtc ctgagcgtg ggctcgaccc 300  
 tggactgtgg cgcggggcgaa cctgccgtct tccgcgactc tgaccgcttc 350  
 tcctggcatg acccgcacct gtggcgctct ggggacgagg cacctggcct 400  
 cttcttcgtg gacgccgagc gcgtgccctg ccgccaacgac gacgtcttct 450  
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 gtgctgtgtc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
 ggacctgggt gttttcctgg cgtcccgccg gggccgccta cgcttccacg 600  
 ggccggggcg gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
 tgcgtctgcg gcaacgcgga ggcgagccg tggatctgcg cggccctgct 700  
 ccagcccct 709

<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
 Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
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 Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
 20 25 30  
 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro Cys Arg His Asp Asp Val Phe Phe Pro Pro Ser Ala Ser Phe  
140 145 150

Arg Val Gly Leu Gly Pro Gly Ala Ser Pro Val Arg Val Arg Ser  
155 160 165

Ile Ser Ala Leu Gly Arg Thr Phe Thr Arg Asp Glu Asp Leu Ala  
170 175 180

Val Phe Leu Ala Ser Arg Ala Gly Arg Leu Arg Phe His Gly Pro  
185 190 195

Gly Ala Leu Ser Val Gly Pro Glu Asp Cys Ala Asp Pro Ser Gly  
200 205 210

Cys Val Cys Gly Asn Ala Glu Ala Gln Pro Trp Ile Cys Ala Ala  
215 220 225

Leu Leu Gln Pro

<210> 282  
<211> 644  
<212> DNA  
<213> Homo sapiens

<400> 282  
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gaagcgaatg ttgagccta ctggttgat tgcaactatc atggtgctgt 100  
tgtgttttgc acttaccctg tgttctgcct tttggtggca taacaaggga 150  
cttgcaacta tcttctgcat ttgagctct ttggcattga cgtggtacag 200  
cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250  
tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300  
tgacacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400  
catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450  
cagtagcaca ggatgagaag tgggttctgt atcttggtga gtggaatctt 500  
cctcatgtac ctgtttctc tctggatggt gtccactga attcccatga 550  
atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
<211> 77  
<212> PRT  
<213> Homo sapiens

<400> 283  
Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg  
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Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu

	20		25		30
Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe					
	35		40		45
Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe					
	50		55		60
Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys					
	65		70		75
Leu Ala					

<210> 284  
 <211> 2623  
 <212> DNA  
 <213> Homo sapiens

<400> 284  
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 ctcccggtgc tccaaactaa tacggactga acggatcgct gcgaggggtgg 150  
 gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
 ccagatagat tatcttacac tgaactgac aagtactttg aaaatgactt 250  
 cgaaatttat cttggtgtcc ttcatacttg ctgcactgag tctttcaacc 300  
 accttttctc tccaactaga ccagcaaaag gttctactag tttcttttga 350  
 tggattccgt tgggattact tatataaagt tccaacgccc cattttcatt 400  
 atattatgaa atatggtgtt cacgtgaagc aagttactaa tgtttttatt 450  
 acaaaaacct accctaacca ttatactttg gtaactggcc tctttgcaga 500  
 gaatcatggg attgttgcaa atgatatgtt tgatcctatt cggaacaaat 550  
 ctttctcctt ggatcacatg aatatttatg attccaagtt ttgggaagaa 600  
 gcgacaccaa tatggatcac aaaccagagg gcaggacata ctagtgggtgc 650  
 agccatgtgg cccggaacag atgtaaaaat acataagcgc tttctactc 700  
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 aagtgatcat ggaatgacgc agtgccttga ggaaagggtta atagaacttg 1000  
 accagtacct ggataaagac cactataccc tgattgatca atctccagta 1050  
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aactcacgct catcctaato ttactgttta caaaaaagaa gacgttccag 1150  
aaaggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
gctgatgaag ggtggcacat ttacagaat aagtcagatg actttctgtt 1250  
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gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
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cactgtagca tagggataga taagatcctg ctttatttgg acttggcgca 1950  
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catgtcacag aatacttgtt acgcattggt caaactgaag gaaatttcta 2150  
ataatcccga ataatgaaca tagaaatcta tctccataaa ttgagagaag 2200  
aagaaggtga taagtgttga aaattaaatg tgataacctt tgaaccttga 2250  
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aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctgagcaatg ttttctcttg tttgtaatta 2550  
tttgtcctt tgaaaattaa atcactatta attacattaa aaatcaaatt 2600  
ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285  
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 Leu Leu Val Ser Phe Asp Gly Phe Arg Trp Asp Tyr Leu Tyr Lys  
 35 40 45  
 Val Pro Thr Pro His Phe His Tyr Ile Met Lys Tyr Gly Val His  
 50 55 60  
 Val Lys Gln Val Thr Asn Val Phe Ile Thr Lys Thr Tyr Pro Asn  
 65 70 75  
 His Tyr Thr Leu Val Thr Gly Leu Phe Ala Glu Asn His Gly Ile  
 80 85 90  
 Val Ala Asn Asp Met Phe Asp Pro Ile Arg Asn Lys Ser Phe Ser  
 95 100 105  
 Leu Asp His Met Asn Ile Tyr Asp Ser Lys Phe Trp Glu Glu Ala  
 110 115 120  
 Thr Pro Ile Trp Ile Thr Asn Gln Arg Ala Gly His Thr Ser Gly  
 125 130 135  
 Ala Ala Met Trp Pro Gly Thr Asp Val Lys Ile His Lys Arg Phe  
 140 145 150  
 Pro Thr His Tyr Met Pro Tyr Asn Glu Ser Val Ser Phe Glu Asp  
 155 160 165  
 Arg Val Ala Lys Ile Val Glu Trp Phe Thr Ser Lys Glu Pro Ile  
 170 175 180  
 Asn Leu Gly Leu Leu Tyr Trp Glu Asp Pro Asp Asp Met Gly His  
 185 190 195  
 His Leu Gly Pro Asp Ser Pro Leu Met Gly Pro Val Ile Ser Asp  
 200 205 210  
 Ile Asp Lys Lys Leu Gly Tyr Leu Ile Gln Met Leu Lys Lys Ala  
 215 220 225  
 Lys Leu Trp Asn Thr Leu Asn Leu Ile Ile Thr Ser Asp His Gly  
 230 235 240  
 Met Thr Gln Cys Ser Glu Glu Arg Leu Ile Glu Leu Asp Gln Tyr  
 245 250 255  
 Leu Asp Lys Asp His Tyr Thr Leu Ile Asp Gln Ser Pro Val Ala  
 260 265 270  
 Ala Ile Leu Pro Lys Glu Gly Lys Phe Asp Glu Val Tyr Glu Ala  
 275 280 285  
 Leu Thr His Ala His Pro Asn Leu Thr Val Tyr Lys Lys Glu Asp



	290		295		300
Val Pro Glu Arg	Trp 305	His Tyr Lys Tyr	Asn 310	Ser Arg Ile Gln	Pro 315
Ile Ile Ala Val	Ala 320	Asp Glu Gly Trp	His 325	Ile Leu Gln Asn	Lys 330
Ser Asp Asp Phe	Leu 335	Leu Gly Asn His	Gly 340	Tyr Asp Asn Ala	Leu 345
Ala Asp Met His	Pro 350	Ile Phe Leu Ala	His 355	Gly Pro Ala Phe	Arg 360
Lys Asn Phe Ser	Lys 365	Glu Ala Met Asn	Ser 370	Thr Asp Leu Tyr	Pro 375
Leu Leu Cys His	Leu 380	Leu Asn Ile Thr	Ala 385	Met Pro His Asn	Gly 390
Ser Phe Trp Asn	Val 395	Gln Asp Leu Leu	Asn 400	Ser Ala Met Pro	Arg 405
Val Val Pro Tyr	Thr 410	Gln Ser Thr Ile	Leu 415	Leu Pro Gly Ser	Val 420
Lys Pro Ala Glu	Tyr 425	Asp Gln Glu Gly	Ser 430	Tyr Pro Tyr Phe	Ile 435
Gly Val Ser Leu	Gly 440	Ser Ile Ile Val	Ile 445	Val Phe Phe Val	Ile 450
Phe Ile Lys His	Leu 455	Ile His Ser Gln	Ile 460	Pro Ala Leu Gln	Asp 465
Met His Ala Glu	Ile 470	Ala Gln Pro Leu	Leu 475	Gln Ala	

<210> 286  
 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
 ggatttttgt gatccgcgat tcgctccac gggcgggacc tttgtaactg 50  
 cgaggaggccc aggacaggcc caccctgcgg ggcgggaggc agccggggtg 100  
 agggaggtga agaaaccaag acgcagagag gccaaagccc ttgccttggg 150  
 tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200  
 aacagggaca tggccacctg ggacgaaaag gcagtcaccc gcagggccaa 250  
 ggtggctccc gctgagagga tgagcaagtt ctttaaggcac ttcacggtcg 300  
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 gaagaggagg aggaggagga ggagcagcca ccaccacac cagtctcagg 400  
 cgaggaaggc agagctgcag cccctgacgt tgcccctgcc cctggccccg 450  
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tcccacaggt ttcaggtcat catcatctgc ttggtggttc tggatgccct 550  
 cctggtgctt gctgagctca tcctggacct gaagatcatc cagcccgaca 600  
 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650  
 gtctttttta tgatggagat catctttaaa ttatttgtct tccgcctgag 700  
 ttcttttcacc acaagtttga gatcctggat gcccgctcgtg gtggtggtct 750  
 cattcatcct ggacattgtc ctctgttcc aggagcacca gtttgaggct 800  
 ctgggcctgc tgattctgct ccggctgtgg cgggtggccc ggatcatcaa 850  
 tgggattatc atctcagtta agacacgttc agaacggcaa ctottaaggt 900  
 taaaacagat gaatgtacaa ttggccgcca agattcaaca ccttgagttc 950  
 agctgctctg agaagcccct ggactgatga gtttgctgta tcaacctgta 1000  
 aggagaagct ctctccggat ggctatggga atgaaagaat ccgacttcta 1050  
 ctctcacaca gccaccgtga aagtcctgga gtaaaatgtg ctgtgtacag 1100  
 aagagagaga aggaagcagg ctggcatgtt cactgggctg gtgttacgac 1150  
 agagaacctg acagtcactg gccagttatc acttcagatt acaaatacaca 1200  
 cagagcatct gcctgttttc aatcacaaaga gaacaaaacc aaaatctata 1250  
 aagatattct gaaaatatga cagaatttga caaataaaaag cataaacgtg 1300  
 taaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaa 1337

<210> 287  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 287  
 Met Ala Thr Trp Asp Glu Lys Ala Val Thr Arg Arg Ala Lys Val  
 1 5 10 15  
 Ala Pro Ala Glu Arg Met Ser Lys Phe Leu Arg His Phe Thr Val  
 20 25 30  
 Val Gly Asp Asp Tyr His Ala Trp Asn Ile Asn Tyr Lys Lys Trp  
 35 40 45  
 Glu Asn Glu Glu Glu Glu Glu Glu Gln Pro Pro Pro Thr  
 50 55 60  
 Pro Val Ser Gly Glu Glu Gly Arg Ala Ala Ala Pro Asp Val Ala  
 65 70 75  
 Pro Ala Pro Gly Pro Ala Pro Arg Ala Pro Leu Asp Phe Arg Gly  
 80 85 90  
 Met Leu Arg Lys Leu Phe Ser Ser His Arg Phe Gln Val Ile Ile  
 95 100 105  
 Ile Cys Leu Val Val Leu Asp Ala Leu Leu Val Leu Ala Glu Leu  
 110 115 120

Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala	
				125					130					135	
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe	
				140					145					150	
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser	
				155					160					165	
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val	
				170					175					180	
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe	
				185					190					195	
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala	
				200					205					210	
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu	
				215					220					225	
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala	
				230					235					240	
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp	
				245					250					255	

<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

<400> 288  
 cggctcgagc tcgagccgaa tcggctcgag gggcagtgga gcacccagca 50  
 ggccgccaac atgctctgtc tgtgcctgta cgtgccggtc atcggggaag 100  
 ccagaccga gttccagtac tttgagtoga aggggctccc tgccgagctg 150  
 aagtcattt tcaagctcag tgtcttcac ccctcccagg aattctccac 200  
 ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250  
 atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300  
 aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350  
 cattgacgag caggagatca tgcagtcctt gcgggacttg ggagtcaaga 400  
 tatctgaaca gcaggcagaa aaaattctca agagcatgga taaaaacggc 450  
 acgatgacca tcgactggaa cgagtggaga gactaccacc tcctccaccc 500  
 cgtggaaaac atccccgaga tcctcctcta ctggaagcat tccacgatct 550  
 ttgatgtggg tgagaatcta acgggtcccg atgagttcac agtggaggag 600  
 aggcagacgg gatgtgtgtg gagacacctg gtggcaggag gtggggcagg 650  
 ggccgtatcc agaacctgca cggccccctt ggacaggctc aaggtgctca 700  
 tgcagggtcca tgcctccgc agcaacaaca tgggcatcgt tgggtgcttc 750

actcagatga ttcgagaagg agggggccagg tcactctggc ggggcaatgg 800  
 catcaacgtc ctcaaaattg cccccgaatc agccatcaaa ttcatggcct 850  
 atgagcagat caagcgcctt gttggtagtg accaggagac tctgaggatt 900  
 cacgagaggc ttgtggcagg gtccttggca ggggccatcg cccagagcag 950  
 catctacca atggaggtcc tgaagacccg gatggcgctg cggaagacag 1000  
 gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
 ggggtggccg ctttctacaa aggctatgtc cccaacatgc tgggcatcat 1100  
 cccctatgcc ggcacgacc ttgcagtcta cgagacgctc aagaatgcct 1150  
 ggctgcagca ctatgcagtg aacagcgcgg acccggcgt gtttgtgctc 1200  
 ctggcctgtg gcacatgtc cagtacctgt ggccagctgg ccagctaccc 1250  
 cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300  
 ctccggaggt gaccatgagc agcctcttca aacatatact gcggaccgag 1350  
 ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggatcat 1400  
 cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcaccc 1450  
 tgggcgtgca gtcgcggtga cggggggagg gccgcccggc agtggactcg 1500  
 ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550  
 tgccaacact aagctgtctc gagccaagct gtgaaaacct tagacgcacc 1600  
 cgcagggagg gtggggagag ctggcaggcc cagggttgt cctgctgacc 1650  
 ccagcagacc ctctgttggt ttccagcgaa gaccacaggc attccttagg 1700  
 gtccagggtc agcaggctcc gggctcacat gtgtaaggac aggacatttt 1750  
 ctgcagtgcc tgccaatagt gagcttggag cctggaggcc ggcttagttc 1800  
 ttccatttca cccttgacg cagctgttggt ccacggcccc tgccctctgg 1850  
 tctgccgtgc atctccctgt gccctcttgc tgctgctg tctgctgagg 1900  
 taagtgggga ggagggtac agcccacatc ccacccctc gtccaatccc 1950  
 ataatccatg atgaaagggt aggtcacgtg gcctcccagg cctgacttcc 2000  
 caacctacag cattgacgcc aacttggtg tgaaggaaga ggaaaggatc 2050  
 tggccttgtg gtcactggca tctgagccct gctgatggct ggggctctcg 2100  
 ggcatgcttg ggagtgcagg gggctcgggc tgcttggcct ggctgcacag 2150  
 aaggcaagtg ctggggctca tgggtgctctg agctggcctg gaccctgtca 2200  
 ggatggggcc cacctcagaa ccaaaactcac tgtccccact gtggcatgag 2250  
 ggcagtggag caccatgttt gagggcgaag ggcagagcgt ttgtgtgttc 2300  
 tggggaggga aggaaaagggt gttggaggcc ttaattatgg actgttggga 2350

aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400  
 ttccagagga agacgagga gcaggagctt ggctgactgc tcagagtctg 2450  
 ttctgacgcc ctgggggttc ctgtccaacc ccagcagggg cgcagcggga 2500  
 ccagccccac attccacttg tgtcactgct tggaacctat ttattttgta 2550  
 tttatttgaa cagagttatg tcctaactat ttttatagat ttgtttaatt 2600  
 aatagcttgt cattttcaag ttcatttttt attcatattt atgttcatgg 2650  
 ttgattgtac cttcccaagc ccgcccagtg ggatgggagg aggaggagaa 2700  
 ggggggcctt gggccgctgc agtcacatct gtccagagaa attccttttg 2750  
 ggactggagg cagaaaagcg gccagaaggc agcagccctg gctcctttcc 2800  
 tttggcaggt tggggaaggg cttgccccca gccttaggat ttcagggttt 2850  
 gactgggggc gtggagagag agggaggaac ctcaataacc ttgaaggtgg 2900  
 aatccagtta tttcctgcgc tgcgagggtt tctttatttc actcttttct 2950  
 gaatgtcaag gcagtgaggt gcctctcact gtgaatttgt ggtgggaggg 3000  
 ggctggagga gaggggtggg ggctggctcc gtccctccca gccttctgct 3050  
 gcccttgctt aacaatgccg gccaaactggc gacctcacgg ttgcacttcc 3100  
 attccaaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150  
 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200  
 aattaagaaa gaattggacg ttagaagttg tcatttaaag cagccttcta 3250  
 ataaagttgt ttcaaagctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

<210> 289  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
 Met Leu Cys Leu Cys Leu Tyr Val Pro Val Ile Gly Glu Ala Gln  
 1 5 10 15  
 Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu  
 20 25 30  
 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	95	100	105
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	110	115	120
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	125	130	135
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	140	145	150
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	155	160	165
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	170	175	180
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	185	190	195
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	200	205	210
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	215	220	225
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	230	235	240
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	245	250	255
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	260	265	270
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	275	280	285
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	290	295	300
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	305	310	315
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	320	325	330
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	335	340	345
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	350	355	360
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro	365	370	375
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys	380	385	390
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	395	400	405

Gln	Ala	Gln	Ala	Ser	Ile	Glu	Gly	Ala	Pro	Glu	Val	Thr	Met	Ser
				410					415					420
Ser	Leu	Phe	Lys	His	Ile	Leu	Arg	Thr	Glu	Gly	Ala	Phe	Gly	Leu
				425					430					435
Tyr	Arg	Gly	Leu	Ala	Pro	Asn	Phe	Met	Lys	Val	Ile	Pro	Ala	Val
				440					445					450
Ser	Ile	Ser	Tyr	Val	Val	Tyr	Glu	Asn	Leu	Lys	Ile	Thr	Leu	Gly
				455					460					465

Val Gln Ser Arg

<210> 290  
 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

<400> 290  
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 ttccccagcc atggcttccc tggggcagat cctcttcttg agcataatta 100  
 gcatcatcat tattctggct ggagcaattg cactcatcat tggctttggt 150  
 atttcaggga gacactccat cacagtcact actgtcgct cagctgggaa 200  
 cattggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250  
 tttctgatat cgtgatacaa tggctgaagg aagggtgtttt aggcttggtc 300  
 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatgtt 350  
 cagaggccgg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgccgct gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tataatcatca cttctaaagg caagggaat gctaaccttg agtataaaac 500  
 tggagccttc agcatgccgg aagtgaatgt ggactataat gccagctcag 550  
 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtgggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650  
 cagctttgag ctgaactctg agaatgtgac catgaagggt gtgtctgtgc 700  
 tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750  
 attgccaaaag caacagggga tatcaaagt acagaatcgg agatcaaaag 800  
 gcggagtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850  
 ctttctttgc catcagctgg gcaattctgc ctctcagccc ttacctgatg 900  
 ctaaaataat gtgccttggc caaaaaaaag catgcaaagt cattgttaca 950  
 acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000  
 ttctgggagg aaatgaattc atatctagaa gtctggagt agcaaacaag 1050

agcaagaaac aaaaagaagc caaaagcaga aggtccaat atgaacaaga 1100  
 taaatctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150  
 actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200  
 gcatccccag atctcagga cctccccctg cctgtcacct ggggagtga 1250  
 aggacaggat agtgcattgt ctttgtctct gaatttttag ttatatgtgc 1300  
 tgtaatgttg ctctgaggaa gccctggaa agtctatccc aacatatcca 1350  
 catottatat tccacaaatt aagctgtagt atgtacccta agacgtgtgc 1400  
 aattgactgc cacttcgcaa ctgagggcg gctgcatttt agtaatgggt 1450  
 caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
 ccaaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
 acagagcagt cggggacacc gattttataa ataaactgag caccttcttt 1600  
 ttaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaa 1658

<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile  
 1 5 10 15  
 Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly  
 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



	155		160		165
Leu Arg Cys Glu	Ala Pro Arg Trp Phe	Pro Gln Pro Thr Val	Val		
	170	175	180		
Trp Ala Ser Gln	Val Asp Gln Gly Ala	Asn Phe Ser Glu Val	Ser		
	185	190	195		
Asn Thr Ser Phe	Glu Leu Asn Ser Glu	Asn Val Thr Met Lys	Val		
	200	205	210		
Val Ser Val Leu	Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser	Cys		
	215	220	225		
Met Ile Glu Asn	Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys	Val		
	230	235	240		
Thr Glu Ser Glu	Ile Lys Arg Arg Ser	His Leu Gln Leu Leu	Asn		
	245	250	255		
Ser Lys Ala Ser	Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser	Trp		
	260	265	270		
Ala Leu Leu Pro	Leu Ser Pro Tyr Leu	Met Leu Lys			
	275	280			

<210> 292  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
 gaatttgtag aagacagcgg cgttgccatg gggcggtctc tggggcaggt 50  
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 tgaagcgggc ctccgccggc ctgcagcggg ttcattgagcc gacctgggcc 150  
 cagcagttgc tacaggagat gaagaccctc ttcttgaata ctgagtacct 200  
 gatgcccttt ctctcaacc agtgtggatc ccttctctat tacctcacct 250  
 tggcatcgac agatctgacc ctggctgtgc ccattctgtaa ctctctggct 300  
 atcatcttca cactgattgt tgggaaggcc cttggagaag atattggtgg 350  
 aaaacgtaag ttagactact gcgagtgcgg gacgcagctc tgtggatctc 400  
 gacatacctg tgttagttcc ttcccagaac ccattctccc agagtgggtg 450  
 aggacacggc cttttcccat cctgcccttt cctctgcagc tgttttgctt 500  
 ccttggtggc atcagagttc ccttcccctg gacagtctgg agaaagacag 550  
 aggtcggggt ttgggattga agaccagacc ccattctgagc ctttctcca 600  
 gccctgtacc agctcctact ggcattggctg agctcagacc ctctgattt 650  
 ctgcctatta tcccaggagc agttgctggc atggtgctca ccgtgatagg 700  
 aatttcactc tgcattcaca gctcagtgag taagaccagc gggcaacagt 750  
 ctaccctttg agtggggcga acccaattcc agctctgctg cctccaggaa 800

gcccttgggc catgaagtgc tggcagtgc cggatggacc tagcacttcc 850  
 cctctctggc cttagcttcc tcctctctta tggggataac agctacctca 900  
 tggatcacia taagagaaca agagtgaag agttttgtaa ctttcaagtgc 950  
 ctgttcagct ggggggattt agcacaggag actctacgot caccctcagc 1000  
 aacctttctg cccagcagc tctcttctg ctaacatctc aggcctccag 1050  
 cccagccacc attactgtgg cctgatctgg actatcatgg tggcaggttc 1100  
 catggactgc agaactocag ctgcatggaa agggccagct gcagactttg 1150  
 agccagaaat gcaaacggga ggcctctggg actcagtcag agcgctttgg 1200  
 ctgaatgagg ggtggaaccg agggaagaag gtgcgtcggg gtggcagatg 1250  
 caggaaatga gctgtctatt agccttgcct gcccaccca tgaggtaggc 1300  
 agaaatcctc actgccagcc cctcttaaac aggtagagag ctgtgagccc 1350  
 cagccccacc tgactccagc acacctggcg agtagtagct gtcaataaat 1400  
 ctatgtaaac agacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1450  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1484

<210> 293  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
 Met Ala Ala Ser Leu Gly Gln Val Leu Ala Leu Val Leu Val Ala  
 1 5 10 15  
 Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala  
 20 25 30  
 Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
 35 40 45  
 Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
 50 55 60  
 Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
 65 70 75  
 Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
 80 85 90  
 Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
 95 100 105  
 Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
 110 115 120  
 Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
 125 130 135  
 Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
 140 145 150

Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
				155					160					165
Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
				170					175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

<400> 294  
 cttctgtagg acagtcacca ggccagatcc agaagcctct ctaggctcca 50  
 gctttctctg tggaagatga cagcaattat agcaggaccc tgccaggctg 100  
 tcgaaaagat tccgcaataa aactttgcca gtgggaagta cctagtgaaa 150  
 cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200  
 ccccatcctt gggagaagtc agctccagca ccatgaaggg catcctcgtt 250  
 gctggtatca ctgcagtgt tgttgagct gtagaatctc tgagctgcgt 300  
 gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350  
 gtccctcaca tgccaacacc agctgtatca gctcctcagc cagctcctct 400  
 ctagagacac cagtcagatt ataccagaat atgttctgct cagcggagaa 450  
 ctgcagtgag gagacacaca ttacagcctt cactgtccac gtgtctgctg 500  
 aagaacactt tcattttgta agccagtgt gcccaaggaaa ggaatgcagc 550  
 aacaccagcg atgccctgga cctcccctg aagaacgtgt ccagcaacgc 600  
 agagtgcctt gcttggtatg aatctaattg aacttctgt cgtgggaagc 650  
 cctggaaatg ctatgaagaa gaacagtgtg tctttctagt tgcagaactt 700  
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 <212> PRT

<213> Homo sapiens

<400> 295

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          35          40          45
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro
          50          55          60
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser
          65          70          75
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu
          80          85          90
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys
          95          100          105
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser
          110          115          120
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser
          125          130          135
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val
          140          145          150
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu
          155          160          165
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe
          170          175          180
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys
          185          190          195
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro
          200          205          210
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu
          215          220          225
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro
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<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagcccat ggtccccgcc gccggcgcg tgctgtgggt cctgctgctg 150
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<210> 297

<211> 341

<212> PRT

<213> Homo sapiens

<400> 297

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Leu	Gly	Pro	Arg	Ala	Ala	Gly	Ala	Gln	Gly	Leu	Thr	Gln	Thr	Pro
			20						25					30
Thr	Glu	Met	Gln	Arg	Val	Ser	Leu	Arg	Phe	Gly	Gly	Pro	Met	Thr
			35						40					45
Arg	Ser	Tyr	Arg	Ser	Thr	Ala	Arg	Thr	Gly	Leu	Pro	Arg	Lys	Thr
			50						55					60
Arg	Ile	Ile	Leu	Glu	Asp	Glu	Asn	Asp	Ala	Met	Ala	Asp	Ala	Asp

65										70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val					
				80					85					90					
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly					
				95					100					105					
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr					
				110					115					120					
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser					
				125					130					135					
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu					
				140					145					150					
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu					
				155					160					165					
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser					
				170					175					180					
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser					
				185					190					195					
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His					
				200					205					210					
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys					
				215					220					225					
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln					
				230					235					240					
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys					
				245					250					255					
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr					
				260					265					270					
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr					
				275					280					285					
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				290					295					300					
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val					
				305					310					315					
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe					
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Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg									
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 <212> DNA  
 <213> Homo sapiens

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<210> 299  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 299  
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 Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala  
 50 55 60  
 Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val  
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His	Gly	Lys	Trp	Pro	Phe	Ser	Arg	Phe	Leu	Phe	Phe	Gln	Glu	Pro	
				95					100					105	
Ala	Ser	Ala	Val	Ala	Ser	Phe	Leu	Asn	Gly	Leu	Ala	Ser	Leu	Val	
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Met	Leu	Cys	Arg	Tyr	Arg	Thr	Phe	Val	Pro	Ala	Ser	Ser	Pro	Met	
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Tyr	His	Thr	Cys	Val	Ala	Phe	Ala	Trp	Val	Ser	Leu	Asn	Ala	Trp	
				140					145					150	
Phe	Trp	Ser	Thr	Val	Phe	His	Thr	Arg	Asp	Thr	Asp	Leu	Thr	Glu	
				155					160					165	
Lys	Met	Asp	Tyr	Phe	Cys	Ala	Ser	Thr	Val	Ile	Leu	His	Ser	Ile	
				170					175					180	
Tyr	Leu	Cys	Cys	Val	Arg	Thr	Val	Gly	Leu	Gln	His	Pro	Ala	Val	
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Val	Ser	Ala	Phe	Arg	Ala	Leu	Leu	Leu	Leu	Met	Leu	Thr	Val	His	
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Val	Ser	Tyr	Leu	Ser	Leu	Ile	Arg	Phe	Asp	Tyr	Gly	Tyr	Asn	Leu	
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Val	Ala	Asn	Val	Ala	Ile	Gly	Leu	Val	Asn	Val	Val	Trp	Trp	Leu	
				230					235					240	
Ala	Trp	Cys	Leu	Trp	Asn	Gln	Arg	Arg	Leu	Pro	His	Val	Arg	Lys	
				245					250					255	
Cys	Val	Val	Val	Val	Leu	Leu	Leu	Gln	Gly	Leu	Ser	Leu	Leu	Glu	
				260					265					270	
Leu	Leu	Asp	Phe	Pro	Pro	Leu	Phe	Trp	Val	Leu	Asp	Ala	His	Ala	
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Ile	Trp	His	Ile	Ser	Thr	Ile	Pro	Val	His	Val	Leu	Phe	Phe	Ser	
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Phe	Leu	Glu	Asp	Asp	Ser	Leu	Tyr	Leu	Leu	Lys	Glu	Ser	Glu	Asp	
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<211> 1674

<212> DNA

<213> Homo sapiens

<400> 300

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<210> 301

<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301  
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                   20                  25                  30  
 Ser His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys  
                   35                  40                  45  
 Ser Ser Thr Lys Glu Thr Glu Arg Lys Glu Thr Lys Ala Glu Glu  
                   50                  55                  60  
 Glu Leu Asp Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu  
                   65                  70                  75  
 Trp Gln Ala Leu Gln Pro Gly Gln Ala Val Pro Ala Gly Ser His  
                   80                  85                  90  
 Val Arg Leu Asn Leu Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln  
                   95                  100                  105  
 Tyr Glu Asp Lys Phe Arg Asn Asn Leu Lys Gly Lys Arg Leu Asp  
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 Ile Asn Thr Asn Thr Tyr Thr Ser Gln Asp Leu Lys Ser Ala Leu  
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 Ala Lys Phe Lys Glu Gly Ala Glu Met Glu Ser Ser Lys Glu Asp  
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 Lys Ala Arg Gln Ala Glu Val Lys Arg Leu Phe Arg Pro Ile Glu  
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 Glu Leu Lys Lys Asp Phe Asp Glu Leu Asn Val Val Ile Glu Thr  
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 Asp Met Gln Ile Met Val Arg Leu Ile Asn Lys Phe Asn Ser Ser  
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 Ser Ser Ser Leu Glu Glu Lys Ile Ala Ala Leu Phe Asp Leu Glu  
                   200                  205                  210  
 Tyr Tyr Val His Gln Met Asp Asn Ala Gln Asp Leu Leu Ser Phe  
                   215                  220                  225  
 Gly Gly Leu Gln Val Val Ile Asn Gly Leu Asn Ser Thr Glu Pro  
                   230                  235                  240  
 Leu Val Lys Glu Tyr Ala Ala Phe Val Leu Gly Ala Ala Phe Ser  
                   245                  250                  255  
 Ser Asn Pro Lys Val Gln Val Glu Ala Ile Glu Gly Gly Ala Leu  
                   260                  265                  270  
 Gln Lys Leu Leu Val Ile Leu Ala Thr Glu Gln Pro Leu Thr Ala  
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Leu Arg Thr Leu Val Gln Glu Lys Gly	Thr Glu Val Leu Ala Val	
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Arg Val Val Thr Leu Leu Tyr Asp Leu	Val Thr Glu Lys Met Phe	
335	340	345
Ala Glu Glu Glu Ala Glu Leu Thr Gln	Glu Met Ser Pro Glu Lys	
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365	370	375
Gln Gly Trp Cys Glu Ile Thr Ala His	Leu Leu Ala Leu Pro Glu	
380	385	390
His Asp Ala Arg Glu Lys Val Leu Gln	Thr Leu Gly Val Leu Leu	
395	400	405
Thr Thr Cys Arg Asp Arg Tyr Arg Gln	Asp Pro Gln Leu Gly Arg	
410	415	420
Thr Leu Ala Ser Leu Gln Ala Glu Tyr	Gln Val Leu Ala Ser Leu	
425	430	435
Glu Leu Gln Asp Gly Glu Asp Glu Gly	Tyr Phe Gln Glu Leu Leu	
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Gly Ser Val Asn Ser Leu Leu Lys Glu	Leu Arg	
455	460	

<210> 302  
 <211> 2136  
 <212> DNA  
 <213> Homo sapiens

<400> 302  
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ctgttatcaa tattttggct gatgcacttg ggccaggtgt ggttgggata 650  
catggagact caccctatta cttcctgact tcagcctttc tgacagcagc 700  
cattatcctg ctccatacct tttggggagt tgtgttcttt gatgcctgtg 750  
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acatcgggac tgacattcct gaaccctcgg tatgaggcca gcctgctgcc 850  
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gagggtccct ccgaagtatt cagcgcagcc tcttgtgtaa ggactgacta 950  
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cgtcgggtcta ccccaactacc tccagggttt tgctttgtcc ttttgtgacc 1100  
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tgtgggaggg gcggggaggt tttctataaa ctgtatcatt ttctgctgag 2000  
ggtggagtggt cccatccttt taatcaaggt gattgtgatt ttgactaata 2050  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2136

<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303  
 Met Gly Ala Ala Val Phe Phe Gly Cys Thr Phe Val Ala Phe Gly  
   1                  5                  10                  15  
 Pro Ala Phe Ala Leu Phe Leu Ile Thr Val Ala Gly Asp Pro Leu  
                   20                  25                  30  
 Arg Val Ile Ile Leu Val Ala Gly Ala Phe Phe Trp Leu Val Ser  
                   35                  40                  45  
 Leu Leu Leu Ala Ser Val Val Trp Phe Ile Leu Val His Val Thr  
                   50                  55                  60  
 Asp Arg Ser Asp Ala Arg Leu Gln Tyr Gly Leu Leu Ile Phe Gly  
                   65                  70                  75  
 Ala Ala Val Ser Val Leu Leu Gln Glu Val Phe Arg Phe Ala Tyr  
                   80                  85                  90  
 Tyr Lys Leu Leu Lys Lys Ala Asp Glu Gly Leu Ala Ser Leu Ser  
                   95                  100                  105  
 Glu Asp Gly Arg Ser Pro Ile Ser Ile Arg Gln Met Ala Tyr Val  
                   110                  115                  120  
 Ser Gly Leu Ser Phe Gly Ile Ile Ser Gly Val Phe Ser Val Ile  
                   125                  130                  135  
 Asn Ile Leu Ala Asp Ala Leu Gly Pro Gly Val Val Gly Ile His  
                   140                  145                  150  
 Gly Asp Ser Pro Tyr Tyr Phe Leu Thr Ser Ala Phe Leu Thr Ala  
                   155                  160                  165  
 Ala Ile Ile Leu Leu His Thr Phe Trp Gly Val Val Phe Phe Asp  
                   170                  175                  180  
 Ala Cys Glu Arg Arg Arg Tyr Trp Ala Leu Gly Leu Val Val Gly  
                   185                  190                  195  
 Ser His Leu Leu Thr Ser Gly Leu Thr Phe Leu Asn Pro Trp Tyr  
                   200                  205                  210  
 Glu Ala Ser Leu Leu Pro Ile Tyr Ala Val Thr Val Ser Met Gly  
                   215                  220                  225  
 Leu Trp Ala Phe Ile Thr Ala Gly Gly Ser Leu Arg Ser Ile Gln  
                   230                  235                  240  
 Arg Ser Leu Leu Cys Lys Asp  
                   245

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
<222> 108, 123, 126, 154, 198, 206, 217  
<223> unknown base

<400> 304  
aagctggttt aaggaagcag aggaggggta gattcgttga gtgaggacgg 50  
aagatcaacc catttccatt ccgccagatg gcctatgttt ctggtctctc 100  
ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
gcanttgggc caggtgtggg tgggatccat ggagactcac cctattantt 200  
cctganttca gcctttntga cagcagccat tatcctgctc 240

<210> 305  
<211> 378  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
<223> unknown base

<400> 305  
gaccgaccgt tcagatgccc ggttccagta cggcttcctg atttttggtg 50  
ctgctgtntc tgtccttcta caggaggtgt tccgctttgc ctantacaag 100  
ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
atcaccatt tccatccgcc agatggccta tgttnttggg ntttccttcg 200  
gtatcatcag tgggtgtttt tctgttatca atattttggn tgatgcantt 250  
gggccaggtg tgggtgggat ccatggagan tcacctatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
<211> 655  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1, 22, 129, 133, 184  
<223> unknown base

<400> 306  
ngttggagaa gtggcgcgga cnttcatttg gggtttcggt ttccccctt 50  
tccctttccc cggggtctgg ggtgacattg cacgggcccc tcgtgggggc 100  
gcgttgccac cccacgcgga ctccccagnt gngcgccct tccatttgc 150  
ctgtcctggg caggccccca ccccccttcc caentgacca gccatggggg 200  
ctgcggtgtt tttcggtgc actttcgtcg cgttcgcccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggacccg cttcgcgtta tcatcctggc 300  
cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
ggttcatctt ggtccatgtg accgaccggt cagatgcccg gctccagtac 400  
ggcctcctga tttttgggtg tgctgtctct gtccttctac aggaggtgtt 450  
ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtttagcat 500  
cgctgagtga ggacggaaga tcacccatct ccatccgcc gatggcctat 550  
gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
tattttggct gatgcacttg ggccaggtgt ggttgggatc catggagact 650  
cacc 655

<210> 307  
<211> 650  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 52, 89, 128  
<223> unknown base

<400> 307  
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onttccccgg ggtctggggg tgacattgca ccgcgccnt cgtggggteg 100  
cgttgccacc ccacgcgga cccccagntg gcgcgccct cccatttgcc 150  
tgtcctggtc agggcccccac ccccttccc acctgaccag ccatgggggc 200  
tgcgggtgtt ttccgggtgc actttcgtcg cgttcgggcc cggccttcgc 250  
gcttttcttg atcaactgtg ctggggaccc gcttcgcgtt atcatcctgg 300  
tcgcaggggc atttttcttg ctggtctccc tgctcctggc ctctgtggtc 350  
tggttcatct tggccatgt gaccgaccg tcagatgccc ggctccagta 400  
cggcctcctg atttttgggt ctgctgtctc tgccttcta caggaggtgt 450  
tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
tcgctgagtg aggacggaag atcaccatc tccatccgcc agatggccta 550  
tgtttctggc ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
atattttggc tgatgcactt gggccaggtg tggttgggat ccatggagac 650

<210> 308  
<211> 1570  
<212> DNA  
<213> Homo sapiens

<400> 308  
gccccaggga gcagtgggtg gttataactc aggcccggtg ccagagccc 50



aggaggagggc agtggccagg aaggcacagg cctgagaagt ctgcggtga 100  
 gctgggagca aatccccac cccctacctg ggggacaggg caagtgagac 150  
 ctggtgaggg tggtcagca ggcaggggaag gagagggtgc tgtgcgtcct 200  
 gcacccacat ctttctctgt cccctccttg ccctgtctgg aggctgctag 250  
 actcctatct tctgaattct atagtgcctg ggtctcagcg cagtgccgat 300  
 ggtggcccggt ccttgtgggt cctctctacc tggggaaata aggtgcagcg 350  
 gccatggcta cagcaagacc cccctggatg tgggtgctct gtgctctgat 400  
 cacagccttg cttctggggg tcacagagca tgttctcgcc aacaatgatg 450  
 tttcctgtga ccacccctct aacaccgtgc cctctgggag caaccaggac 500  
 ctgggagctg gggccgggga agacgcccg tcggatgaca gcagcagccg 550  
 catcatcaat ggatccgact gcgatatgca caccagccg tggcaggccg 600  
 cgctgttgct aaggcccaac cagctctact gcggggcggt gttggtgcat 650  
 ccacagtggc tgctcacggc cgccactgc aggaagaaag ttttcagagt 700  
 cgtctcggc cactactccc tgtcaccagt ttatgaatct gggcagcaga 750  
 tgttccaggg ggtcaaatcc atccccacc ctggctactc ccaccctggc 800  
 cactctaacg acctcatgct catcaaactg aacagaagaa ttcgtccac 850  
 taaagatgtc agaccatca acgtctctc tcattgtccc tctgtggga 900  
 caaagtgtt ggtgtctggc tgggggacaa ccaagagccc ccaagtgcac 950  
 ttocctaagg tcctccagt cttgaatatc agcgtgctaa gtcagaaaag 1000  
 gtgcgaggat gcttaccga gacagataga tgacaccatg ttctgcgccg 1050  
 gtgacaaagc aggtagagac tcctgccagg gtgattctgg ggggcctgtg 1100  
 gtctgcaatg gctccctgca gggactcgtg tcctggggag attacccttg 1150  
 tgcccgccc aacagaccgg gtgtctacac gaacctctgc aagttcacca 1200  
 agtggatcca ggaaaccatc caggccaact cctgagtcac ccaggactc 1250  
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 ctgaccccat gtctcctgga ctcagggtct gcttccccca cattgggctg 1400  
 accgtgtctc tctagttgaa ccctgggaac aatttccaaa actgtccagg 1450  
 gcgggggttg cgtctcaatc tcctggggc actttcatcc tcaagctcag 1500  
 ggcccatccc ttctctgcag ctctgacca aatttagtcc cagaaataaa 1550  
 ctgagaagtg gaaaaaaaaa 1570

<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

Met	Ala	Thr	Ala	Arg	Pro	Pro	Trp	Met	Trp	Val	Leu	Cys	Ala	Leu	1	5	10	15
Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	20	25	30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	35	40	45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	50	55	60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	65	70	75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	80	85	90	
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	95	100	105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	110	115	120	
Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	125	130	135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	140	145	150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	155	160	165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	170	175	180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	185	190	195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	200	205	210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	215	220	225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	230	235	240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	245	250	255	
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	260	265	270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	275	280	285	
Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser											

<210> 310  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
 tcctgtgacc acccctctaa cacc 24

<210> 311  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 311  
 ctggaacatc tgctgcccag attc 24

<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 312  
 gtcgatgac agcagcagcc gcatcatcaa tggatccgac tgcgatatgc 50

<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
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 ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150  
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 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
 1 5 10 15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
 20 25 30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105

Ala Arg Leu Glu Ser	Ala Gln Ala Ser	Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln	Pro Arg Leu Val	Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu	Ala Asp Gln Leu	Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln	Thr Glu Cys Met	Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln	Gly Leu Ser Ala	Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu	Leu Ser Glu Ser	Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val	Ser Asp Ile Leu	Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg	Pro Arg Asn Lys	Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr	Arg Pro Arg Gly	Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu	Asp Val Leu Leu	Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val	Phe Pro Thr His	Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met	Arg Thr Asp Gly	Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp	Gly Ser Val Asn	Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly	Phe Gly Arg Leu	Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile	His Ala Leu Thr	Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu	Glu Asp Phe Glu	Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe	Gly Val Gly Leu	Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro	Leu Thr Val Ala	Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu	Lys His Ser Gly	Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp	His Ser Glu Asn	Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp	Tyr Arg Asn Cys	His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
425 430 435

Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
440 445 450

Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
455 460

<210> 315  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
cacacgtcca acctcaatgg gcag 24

<210> 316  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
gaccagcagg gccaggaca agg 23

<210> 317  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
gttctctgag atgaagatcc ggccgggtccg ggagtaccgc ttag 44

<210> 318  
<211> 1841  
<212> DNA  
<213> Homo sapiens

<400> 318  
gcagtcagag acttccccctg cccctcgctg ggaaagaaca ttaggaatgc 50  
cttttagtgc cttgcttctt gaactagctc acagtagccc ggcggccag 100  
ggcaatccga ccacatttca ctctcaccgc ttaggaatc cagatgcagg 150  
ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
gcgcacagag cacagggctc cctcttcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

ttctcaaag gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtggctgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
 ttgtacagaa caatggaaat ggcatggaga caattgctac cagttctata 600  
 aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
 totaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
 tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
 ctgacagtgg caaggcctgg ctgtggatgg atggaacccc tttcacttct 800  
 gaactgttcc atattataat agatgtcacc agccaagaa gcagagactg 850  
 tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
 agcgttgtgt ctgtgagaga agggcaggaa tggatgaagcc agagagcctc 950  
 catgtccccc ctgaaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
 ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaag actatctctc tgactagtac 1100  
 aaaatgggtt ctggtgtttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaaccca taatgtcatc tgccttcttg gcttagagat 1250  
 aacttttagc tctctttctt ctcaatgtct aatatcacct ccctgttttc 1300  
 atgtcttctt tacacttggt ggaataagaa actttttgaa gtagaggaaa 1350  
 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagtca cttcccagat tgtaccagca aatacacaag gaattctttt 1450  
 tgtttgtttc agttcatact agtcccttcc caatccatca gtaaagacct 1500  
 catctgcctt gtccatgccg tttcccaaca gggatgtcac ttgatatgag 1550  
 aatctcaaat ctcaatgcct tataagcatt ctttctgtg tccattaaga 1600  
 ctctgataat tgtctccctt ccataggaat ttctcccagg aaagaaatat 1650  
 atccccatct ccgtttcata tcagaactac cgtcccgat attcccttca 1700  
 gagagattaa agaccagaaa aaagtgagcc tttcatctg cacctgtaat 1750  
 agtttcagtt cctattttct tccattgacc catatttata cttttcaggt 1800  
 actgaagatt taataataat aaatgtaaat actgtgaaaa a 1841

<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

Met	Gln	Ala	Lys	Tyr	Ser	Ser	Thr	Arg	Asp	Met	Leu	Asp	Asp	Asp
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Gly	Asp	Thr	Thr	Met	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr	Thr
				20					25					30
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser
				35					40					45
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val
				50					55					60
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr
				65					70					75
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu
				80					85					90
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val
				95					100					105
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys
				110					115					120
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser
				125					130					135
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln
				140					145					150
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys
				155					160					165
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp
				170					175					180
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser
				185					190					195
Tyr	Trp	Thr	Gly	Leu	Leu	Arg	Pro	Asp	Ser	Gly	Lys	Ala	Trp	Leu
				200					205					210
Trp	Met	Asp	Gly	Thr	Pro	Phe	Thr	Ser	Glu	Leu	Phe	His	Ile	Ile
				215					220					225
Ile	Asp	Val	Thr	Ser	Pro	Arg	Ser	Arg	Asp	Cys	Val	Ala	Ile	Leu
				230					235					240
Asn	Gly	Met	Ile	Phe	Ser	Lys	Asp	Cys	Lys	Glu	Leu	Lys	Arg	Cys
				245					250					255
Val	Cys	Glu	Arg	Arg	Ala	Gly	Met	Val	Lys	Pro	Glu	Ser	Leu	His
				260					265					270
Val	Pro	Pro	Glu	Thr	Leu	Gly	Glu	Gly	Asp					
				275					280					

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

<220>  
<221> unsure  
<222> 59, 95, 149, 331, 364, 438, 446  
<223> unknown base

<400> 320  
aattttcacc gctgtaggaa tccagatgca ggccaagtac agcagcacga 50  
gggacatgnt ggatgatgat gggacaccac catgagcctg cattntcaag 100  
cttttggcac aattoggcac ccagagcccc ggcgcacaga gcacagggnt 150  
cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
gggtgctgctg atagggctgg cagccctggg gcttttgttt tttcagtact 250  
accagctctc caatactggt caagacacca tttctcaaat ggaagaaaga 300  
ttaggaaata cgtccaaga gttgcaattt nttcaagtcc agaataaaa 350  
gcttgcagga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
ataacaaagc tggaggaact ttgaaggagg gcaaagtntc ctcatntact 450  
atacacacac cacttccc 468

<210> 321  
<211> 23  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 321  
atgcaggcca agtacagcag cac 23

<210> 322  
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<220>  
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<400> 322  
catgctgacg acttcctgca agc 23

<210> 323  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 323  
ccacacagtc tctgcttctt ggg 23

<210> 324  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 324

atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325

<211> 2988

<212> DNA

<213> Homo sapiens

<400> 325

gccgagcgca agaaccctgc gcagcccaga gcagctgctg gaggggaatc 50

gaggcgcggc tccggggatt cggtctgggc cgctggctct gctctgcggg 100

gagggagcgg gcccgcccgc ggggcccag ccctccgat ccgccccctc 150

cccgggtccc cccctcggga gactcctctg gctgctctgg gggttcgccg 200

gggcccggga cccgcggtcc gggcgccatg cgggcatcgc tgctgctgtc 250

ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300

ccctgagcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350

ccgccccaac ctggagaactc tgagctgccg ccgcgcggca acaccaacgc 400

ggcgcgcccg cccaactcgg tgcagcccgg agcggagcgc gagaagcccg 450

gggcccggca aggcgcgggg gagaattggg agccgcgcgt cttgccctac 500

caccctgcac agcccggcca ggccgcaaaa aaggccgtca ggaccgccta 550

catcagcacg gagctgggca tcaggcagag gctgctggtg gcggtgctga 600

cctctcagac cacgctgccc acgtgggagc tggccgtgaa ccgcacgctg 650

gggcaccggc tggagcgtgt ggtgttcctg acgggcgcac ggggcccgcg 700

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gacacctgca cctggcgctg cgccacctgc tggagcagca cggcgacgac 800

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cctggcacgc ctaactggcc acctcagcct ggcctccgcc gccacctgt 900

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acctgtgctg tgaccctgtg cacatgtacc agctgcacaa agctttcgcc 1250

cgagctgaac tggaacgcac gtaccaggag atccaggagt tacagtggga 1300

gatccagaat accagccatc tggccgttga tggggaccgg gcagctgctt 1350  
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gagctgagga gggggcatct cccaacttct cccttttggga ccctgcccga 2950

gctccctgcc ttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met Arg Ala Ser Leu Leu Leu Ser Val Leu Arg Pro Ala Gly Pro  
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Val Ala Val Gly Ile Ser Leu Gly Phe Thr Leu Ser Leu Leu Ser  
20 25 30

Val Thr Trp Val Glu Glu Pro Cys Gly Pro Gly Pro Pro Gln Pro  
35 40 45

Gly Asp Ser Glu Leu Pro Pro Arg Gly Asn Thr Asn Ala Ala Arg  
50 55 60

Arg Pro Asn Ser Val Gln Pro Gly Ala Glu Arg Glu Lys Pro Gly  
65 70 75

Ala Gly Glu Gly Ala Gly Glu Asn Trp Glu Pro Arg Val Leu Pro  
80 85 90

Tyr His Pro Ala Gln Pro Gly Gln Ala Ala Lys Lys Ala Val Arg  
95 100 105

Thr Arg Tyr Ile Ser Thr Glu Leu Gly Ile Arg Gln Arg Leu Leu  
110 115 120

Val Ala Val Leu Thr Ser Gln Thr Thr Leu Pro Thr Leu Gly Val  
125 130 135

Ala Val Asn Arg Thr Leu Gly His Arg Leu Glu Arg Val Val Phe  
140 145 150

Leu Thr Gly Ala Arg Gly Arg Arg Ala Pro Pro Gly Met Ala Val  
155 160 165

Val Thr Leu Gly Glu Glu Arg Pro Ile Gly His Leu His Leu Ala  
170 175 180

Leu Arg His Leu Leu Glu Gln His Gly Asp Asp Phe Asp Trp Phe  
185 190 195

Phe Leu Val Pro Asp Thr Thr Tyr Thr Glu Ala His Gly Leu Ala  
200 205 210

Arg Leu Thr Gly His Leu Ser Leu Ala Ser Ala Ala His Leu Tyr  
215 220 225

Leu Gly Arg Pro Gln Asp Phe Ile Gly Gly Glu Pro Thr Pro Gly  
230 235 240

Arg Tyr Cys His Gly Gly Phe Gly Val Leu Leu Ser Arg Met Leu  
245 250 255

Leu Gln Gln Leu Arg Pro His Leu Glu Gly Cys Arg Asn Asp Ile  
260 265 270

Val	Ser	Ala	Arg	Pro	Asp	Glu	Trp	Leu	Gly	Arg	Cys	Ile	Leu	Asp	275	280	285
Ala	Thr	Gly	Val	Gly	Cys	Thr	Gly	Asp	His	Glu	Gly	Val	His	Tyr	290	295	300
Ser	His	Leu	Glu	Leu	Ser	Pro	Gly	Glu	Pro	Val	Gln	Glu	Gly	Asp	305	310	315
Pro	His	Phe	Arg	Ser	Ala	Leu	Thr	Ala	His	Pro	Val	Arg	Asp	Pro	320	325	330
Val	His	Met	Tyr	Gln	Leu	His	Lys	Ala	Phe	Ala	Arg	Ala	Glu	Leu	335	340	345
Glu	Arg	Thr	Tyr	Gln	Glu	Ile	Gln	Glu	Leu	Gln	Trp	Glu	Ile	Gln	350	355	360
Asn	Thr	Ser	His	Leu	Ala	Val	Asp	Gly	Asp	Arg	Ala	Ala	Ala	Trp	365	370	375
Pro	Val	Gly	Ile	Pro	Ala	Pro	Ser	Arg	Pro	Ala	Ser	Arg	Phe	Glu	380	385	390
Val	Leu	Arg	Trp	Asp	Tyr	Phe	Thr	Glu	Gln	His	Ala	Phe	Ser	Cys	395	400	405
Ala	Asp	Gly	Ser	Pro	Arg	Cys	Pro	Leu	Arg	Gly	Ala	Asp	Arg	Ala	410	415	420
Asp	Val	Ala	Asp	Val	Leu	Gly	Thr	Ala	Leu	Glu	Glu	Leu	Asn	Arg	425	430	435
Arg	Tyr	His	Pro	Ala	Leu	Arg	Leu	Gln	Lys	Gln	Gln	Leu	Val	Asn	440	445	450
Gly	Tyr	Arg	Arg	Phe	Asp	Pro	Ala	Arg	Gly	Met	Glu	Tyr	Thr	Leu	455	460	465
Asp	Leu	Gln	Leu	Glu	Ala	Leu	Thr	Pro	Gln	Gly	Gly	Arg	Arg	Pro	470	475	480
Leu	Thr	Arg	Arg	Val	Gln	Leu	Leu	Arg	Pro	Leu	Ser	Arg	Val	Glu	485	490	495
Ile	Leu	Pro	Val	Pro	Tyr	Val	Thr	Glu	Ala	Ser	Arg	Leu	Thr	Val	500	505	510
Leu	Leu	Pro	Leu	Ala	Ala	Ala	Glu	Arg	Asp	Leu	Ala	Pro	Gly	Phe	515	520	525
Leu	Glu	Ala	Phe	Ala	Thr	Ala	Ala	Leu	Glu	Pro	Gly	Asp	Ala	Ala	530	535	540
Ala	Ala	Leu	Thr	Leu	Leu	Leu	Leu	Tyr	Glu	Pro	Arg	Gln	Ala	Gln	545	550	555
Arg	Val	Ala	His	Ala	Asp	Val	Phe	Ala	Pro	Val	Lys	Ala	His	Val	560	565	570
Ala	Glu	Leu	Glu	Arg	Arg	Phe	Pro	Gly	Ala	Arg	Val	Pro	Trp	Leu	575	580	585

Ser Val Gln Thr	Ala Ala Pro Ser Pro	Leu Arg Leu Met Asp	Leu
	590	595	600
Leu Ser Lys Lys	His Pro Leu Asp Thr	Leu Phe Leu Leu Ala	Gly
	605	610	615
Pro Asp Thr Val	Leu Thr Pro Asp Phe	Leu Asn Arg Cys Arg	Met
	620	625	630
His Ala Ile Ser	Gly Trp Gln Ala Phe	Phe Pro Met His Phe	Gln
	635	640	645
Ala Phe His Pro	Gly Val Ala Pro Pro	Gln Gly Pro Gly Pro	Pro
	650	655	660
Glu Leu Gly Arg	Asp Thr Gly Arg Phe	Asp Arg Gln Ala Ala	Ser
	665	670	675
Glu Ala Cys Phe	Tyr Asn Ser Asp Tyr	Val Ala Ala Arg Gly	Arg
	680	685	690
Leu Ala Ala Ala	Ser Glu Gln Glu Glu	Glu Leu Leu Glu Ser	Leu
	695	700	705
Asp Val Tyr Glu	Leu Phe Leu His Phe	Ser Ser Leu His Val	Leu
	710	715	720
Arg Ala Val Glu	Pro Ala Leu Leu Gln	Arg Tyr Arg Ala Gln	Thr
	725	730	735
Cys Ser Ala Arg	Leu Ser Glu Asp Leu	Tyr His Arg Cys Leu	Gln
	740	745	750
Ser Val Leu Glu	Gly Leu Gly Ser Arg	Thr Gln Leu Ala Met	Leu
	755	760	765
Leu Phe Glu Gln	Glu Gln Gly Asn Ser	Thr	
	770	775	

<210> 327  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 327  
 tggaaggctg ccgcaacgac aatc 24

<210> 328  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 328  
 ctgatgtggc cgatgttctg 20

<210> 329  
 <211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 329  
atggctcagt gtgcagacag 20

<210> 330  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 330  
gcatgctgct ccgtgaagta gtcc 24

<210> 331  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 331  
atgcatggga aagaaggcct gccc 24

<210> 332  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 332  
tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47

<210> 333  
<211> 1095  
<212> DNA  
<213> Homo sapiens

<400> 333  
gctctggccg gccccggcga ttggtcacog cccgctaggg gacagccctg 50  
gcctcctctg attggcaagc gctggccacc tccccacacc ccttgccaac 100  
gctcccctag tggagaaaag gagtagctat tagccaattc ggcagggccc 150  
gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200  
tgccctctttc ccagtgggc gagggaaactc ggggcgattg gctgggaact 250  
gtatocaccc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300  
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350  
gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



aaaaccaa at cagatctggg acctatatag cgtggcggag gcggggcgat 450  
 gattgtcgcg ctgcaccca ctgcagctgc gcacagtcgc atttctttcc 500  
 ccgcccctga gaccctgcag caccatctgt catggcggct gggctgtttg 550  
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 catggttatg acaaggaccc cgttttggac gtctggaaca tgcgacttgt 800  
 cttctctttt ggcgtctcca tcatcctggt ccttggcagc acctttgtgg 850  
 cctatctgcc tgactacagg atgaaagagt ggtcccgcgc cgaagctgag 900  
 aggcttgtga aataccgaga ggccaatggc cttcccatca tggaatccaa 950  
 ctgcttcgac cccagcaaga tccagctgcc agaggatgag tgaccagttg 1000  
 ctaagtgggg ctcaagaagc accgccttcc ccaccccctg cctgccattc 1050  
 tgacctcttc tcagagcacc taattaaagg ggctgaaagt ctgaa 1095

<210> 334  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 334  
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 Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
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 35 40 45  
 Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
 50 55 60  
 Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
 65 70 75  
 Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
 80 85 90  
 Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
 95 100 105  
 Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg  
 110 115 120  
 Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro  
 125 130 135  
 Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
 140 145 150

Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
ggcggctggg ctgtttggtt tgagcgctog ccgtcttttg gcggcagcgg 50  
cgacgcgagg gctccccggc gcccgcgtec gctgggaatc tagcttctcc 100  
aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaaccc agactcccat ggttatgaca aggaocccgt tttggacgtc 250  
tggaacatgc gacttgtctt cttctttggc gtctcoatca tcctggtcct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
cccgccgcga agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagcaccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA

<213> Homo sapiens

<400> 339

gcggcggcta tgccgcttgc tctgctcgtc ctgttgctcc tggggcccgg 50  
cggctggtgc cttgcagaac cccacgcga cagcctgcgg gaggaacttg 100  
tcatcacccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttcccaaa gccctggggc agctgatctc caagtattct ctacgggagc 250  
tgcacctgtc attcacacaa ggcttttgga ggacccgata ctggggggcca 300  
cccttcctgc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttgga ggagctcagt aatgtcctct 400  
cagggatctt ctgcgcctct ctcaacttca tcgactccac caacacagtc 450  
actcccactg cctccttcaa acccctgggt ctggccaatg aactgacca 500  
ctactttctg cgctatgctg tgctgcgcgg ggaggtggtc tgcaccgaaa 550  
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cctgggagct gaggcagacc ctgtcagttg tatttgatgc cttcatcacg 750  
gggcagggaa agaaagactg gtccctcttc cggatgttct cccgaaccct 800  
cacggagccc tgccccctgg cttcagagag ccgagtctat gtggacatca 850  
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ctgcatgccc agcggtagct gagtggctat gggctgcaga agggggagct 1100  
gagcacactg ctgtacaaca cccaccata ccgggccttc ccggtgctgc 1150  
tgctggacac cgtaccctgg tatctgcggc tgtatgtgca caccctcacc 1200  
atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250  
tgcccaggac cggctgcaac cccacctcct ggagatgctg attcagctgc 1300  
cggccaactc agtcaccaag gtttccatcc agtttgagcg ggcgctgctg 1350  
aagtggaccg agtacacgcc agatcctaac catggcttct atgtcagccc 1400  
atctgtcctc agcgccttg tgcccagcat ggtagcagcc aagccagtgg 1450  
actgggaaga gagtccctc ttcaacagcc tgttccagct ctctgatggc 1500

tctaactact ttgtgcggct ctacacggag ccgctgctgg tgaacctgcc 1550  
gacacoggac ttcagcatgc cctacaacgt gatctgcctc acgtgcactg 1600  
tgggtggcgt gtgctacggc tccttctaca atctcctcac ccgaaccttc 1650  
cacatcgagg agccccgcac aggtggcctg gccaagcggc tggccaacct 1700  
tatccggcgc gcccgagggtg tccccccact ctgattcttg ccctttccag 1750  
cagctgcagc tgccgtttct ctctggggag gggagcccaa gggctgtttc 1800  
tgccacttgc tctcctcaga gttggctttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcct cacctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggc cggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaagtga tgggggtgtgc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
Met Pro Leu Ala Leu Leu Val Leu Leu Leu Leu Gly Pro Gly Gly  
1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala Ser Phe Lys Pro Leu Gly Leu Ala	Asn Asp Thr Asp His Tyr	155	160	165
Phe Leu Arg Tyr Ala Val Leu Pro Arg	Glu Val Val Cys Thr Glu	170	175	180
Asn Leu Thr Pro Trp Lys Lys Leu Leu	Pro Cys Ser Ser Lys Ala	185	190	195
Gly Leu Ser Val Leu Leu Lys Ala Asp	Arg Leu Phe His Thr Ser	200	205	210
Tyr His Ser Gln Ala Val His Ile Arg	Pro Val Cys Arg Asn Ala	215	220	225
Arg Cys Thr Ser Ile Ser Trp Glu Leu	Arg Gln Thr Leu Ser Val	230	235	240
Val Phe Asp Ala Phe Ile Thr Gly Gln	Gly Lys Lys Asp Trp Ser	245	250	255
Leu Phe Arg Met Phe Ser Arg Thr Leu	Thr Glu Pro Cys Pro Leu	260	265	270
Ala Ser Glu Ser Arg Val Tyr Val Asp	Ile Thr Thr Tyr Asn Gln	275	280	285
Asp Asn Glu Thr Leu Glu Val His Pro	Pro Pro Thr Thr Thr Tyr	290	295	300
Gln Asp Val Ile Leu Gly Thr Arg Lys	Thr Tyr Ala Ile Tyr Asp	305	310	315
Leu Leu Asp Thr Ala Met Ile Asn Asn	Ser Arg Asn Leu Asn Ile	320	325	330
Gln Leu Lys Trp Lys Arg Pro Pro Glu	Asn Glu Ala Pro Pro Val	335	340	345
Pro Phe Leu His Ala Gln Arg Tyr Val	Ser Gly Tyr Gly Leu Gln	350	355	360
Lys Gly Glu Leu Ser Thr Leu Leu Tyr	Asn Thr His Pro Tyr Arg	365	370	375
Ala Phe Pro Val Leu Leu Leu Asp Thr	Val Pro Trp Tyr Leu Arg	380	385	390
Leu Tyr Val His Thr Leu Thr Ile Thr	Ser Lys Gly Lys Glu Asn	395	400	405
Lys Pro Ser Tyr Ile His Tyr Gln Pro	Ala Gln Asp Arg Leu Gln	410	415	420
Pro His Leu Leu Glu Met Leu Ile Gln	Leu Pro Ala Asn Ser Val	425	430	435
Thr Lys Val Ser Ile Gln Phe Glu Arg	Ala Leu Leu Lys Trp Thr	440	445	450
Glu Tyr Thr Pro Asp Pro Asn His Gly	Phe Tyr Val Ser Pro Ser	455	460	465

Val	Leu	Ser	Ala	Leu	Val	Pro	Ser	Met	Val	Ala	Ala	Lys	Pro	Val	
				470					475					480	
Asp	Trp	Glu	Glu	Ser	Pro	Leu	Phe	Asn	Ser	Leu	Phe	Pro	Val	Ser	
				485					490					495	
Asp	Gly	Ser	Asn	Tyr	Phe	Val	Arg	Leu	Tyr	Thr	Glu	Pro	Leu	Leu	
				500					505					510	
Val	Asn	Leu	Pro	Thr	Pro	Asp	Phe	Ser	Met	Pro	Tyr	Asn	Val	Ile	
				515					520					525	
Cys	Leu	Thr	Cys	Thr	Val	Val	Ala	Val	Cys	Tyr	Gly	Ser	Phe	Tyr	
				530					535					540	
Asn	Leu	Leu	Thr	Arg	Thr	Phe	His	Ile	Glu	Glu	Pro	Arg	Thr	Gly	
				545					550					555	
Gly	Leu	Ala	Lys	Arg	Leu	Ala	Asn	Leu	Ile	Arg	Arg	Ala	Arg	Gly	
				560					565					570	

Val Pro Pro Leu

<210> 341  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 341  
 tggacaccgt accctggtat ctgc 24

<210> 342  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> Artificial Sequence  
 <222> 1-24  
 <223> Synthetic oligonucleotide probe

<400> 342  
 ccaactctga ggagagcaag tggc 24

<210> 343  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 343  
 tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
 <211> 762  
 <212> DNA  
 <213> Homo sapiens

<400> 344

caacatgggg tccagcagct tcttggtcct catggtgtct ctggttcttg 50  
tgaccctggg ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
gtttgcccag ctgacaacgt acgctgcttc aagtccgata ctccccagtg 150  
tcacacagac caggactgtc tgggggaaaag gaagtgttgt tacctgcact 200  
gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250  
aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
gtgtccaggc tctcctcta ccagggtgcc tcagaaatga tgctgggtcc 350  
tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
gagacttga atattggaaga agcaataccc aacccaccca aagaaaacct 450  
gagcttgaag tctttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
gaccccaggg acggtacttt cctctctac ctggtgctcc tccctaattgc 550  
tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
gtcagagaag agaaactggg cctcaccaga tgctgaatct gctggtgcct 700  
tgatcttga ottcccagcc tctagaactg taagaaataa atatttgctg 750  
tttataatcc aa 762

<210> 345

<211> 111

<212> PRT

<213> Homo sapiens

<400> 345

Met	Gly	Ser	Ser	Ser	Phe	Leu	Val	Leu	Met	Val	Ser	Leu	Val	Leu	
1				5					10					15	
Val	Thr	Leu	Val	Ala	Val	Glu	Gly	Val	Lys	Glu	Gly	Ile	Glu	Lys	
				20					25					30	
Ala	Gly	Val	Cys	Pro	Ala	Asp	Asn	Val	Arg	Cys	Phe	Lys	Ser	Asp	
				35					40					45	
Pro	Pro	Gln	Cys	His	Thr	Asp	Gln	Asp	Cys	Leu	Gly	Glu	Arg	Lys	
				50					55					60	
Cys	Cys	Tyr	Leu	His	Cys	Gly	Phe	Lys	Cys	Val	Ile	Pro	Val	Lys	
				65					70					75	
Glu	Leu	Glu	Glu	Gly	Gly	Asn	Lys	Asp	Glu	Asp	Val	Ser	Arg	Pro	
				80					85					90	
Tyr	Pro	Glu	Pro	Gly	Trp	Glu	Ala	Lys	Cys	Pro	Gly	Ser	Ser	Ser	
				95					100					105	
Thr	Arg	Cys	Pro	Gln	Lys										
				110											

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
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ttcctggcca ggaaacctga gcggtgagac tcccagctgc ctacatcaag 100  
gccccaggac atgcagaacc ttcctctaga acccgaccca ccaccatgag 150  
gtcctgcttg tggagatgca ggcacctgag ccaaggcgtc cagtggctct 200  
tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
agaaagggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
ctcaacacac aaacccagcc caaggcccac accaccggag acagaggaaa 450  
ggaggccaac caggcacccg cggaggagca ggacaagggtg cccacacag 500  
cacagagggc agcatggaag agcccagaaa aagagaaaac catggtgaac 550  
acactgtcac ccagagggca agatgcaggg atggcctctg gcaggacaga 600  
ggcacaatca tggagagcc aggcacaaa gacgaccaa ggaaatgggg 650  
gccagaccag gaagctgacg gcctccagga cgggtgtcaga gaagcaccag 700  
ggcaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
tgaccacagc agtcatccca cctaaggaga agaaacctca ggccacccca 850  
ccccctgccc ctttccagag cccacgacg cagagaaacc aaagactgaa 900  
ggccgccaac ttcaaactg agcctcgggtg ggattttgag gaaaaatata 950  
gcttcgaaat aggaggcctt cagacgactt gccctgactc tgtgaagatc 1000  
aaagcctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
tctcttctg gactccagac acttcaacca gactgagtg gaccgcctgg 1100  
aacactttgc accaccctt ggcttcatgg agctcaacta ctcttggtg 1150  
cagaaggctc tgacacgctt ccctccagtg cccagcagc agctgctcct 1200  
ggccagcctc cccgctggga gcctccggtg catcacctgt gccgtggtgg 1250  
gcaacggggg catcctgaac aactcccaca tgggccagga gatagacagt 1300  
cacgactacg tgttccgatt gagcggagct ctcatataag gctacgaaca 1350  
ggatgtgggg actcggacat cttctacgg ctttaccgcc ttctccctga 1400  
cccagtcact ctttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



gggaaggacg tccgctactt gcacttcttg gaaggcaccg gggactatga 1500  
 gtggctggaa gcactgctta tgaatcagac ggtgatgtca aaaaaccttt 1550  
 tctggttcag gcacagaccc caggaagctt ttcgggaagc cctgcacatg 1600  
 gacaggtacc tgttgctgca cccagacttt ctccgataca tgaagaacag 1650  
 gtttctgagg tctaagaccc tggatggtgc cactggagg atataccgcc 1700  
 ccaccactgg ggocctcttg ctgctcactg cccttcagct ctgtgaccag 1750  
 gtgagtgttt atggcttcat cactgagggc catgagcgt tttctgatca 1800  
 ctactatgat acatcatgga agcggctgat cttttacata aaccatgact 1850  
 tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
 cggctgtacc agcgtcttg tcccggaact gccaaagcca agaactgacc 1950  
 ggggccaggg ctgccatggt ctcttgctt gctccaaggc acaggataca 2000  
 gtgggaatct tgagactctt tggccatttc ccatggctca gactaagctc 2050  
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 ctcaagatgg caaatggcta attgaggttc tgaagttctt cagtacattg 2150  
 ctgtaggtcc tgaggccagg gatttttaac taaatggggt gatgggtggc 2200  
 caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
 gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
 attccagatc gagtttacag ttgtgaaatc ttgaaggat tacttaactt 2350  
 cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
 ggtctatact tgtccttgtc tttaagctat ttgacaactc tacgtgttgt 2450  
 agaaaactga taataatata aatgattgtt gtccatggaa aggcaaataa 2500  
 attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

Met	Arg	Ser	Cys	Leu	Trp	Arg	Cys	Arg	His	Leu	Ser	Gln	Gly	Val
1				5					10					15

Gln	Trp	Ser	Leu	Leu	Leu	Ala	Val	Leu	Val	Phe	Phe	Leu	Phe	Ala
			20						25					30

Leu	Pro	Ser	Phe	Ile	Lys	Glu	Pro	Gln	Thr	Lys	Pro	Ser	Arg	His
				35					40					45

Gln	Arg	Thr	Glu	Asn	Ile	Lys	Glu	Arg	Ser	Leu	Gln	Ser	Leu	Ala
				50					55					60

Lys	Pro	Lys	Ser	Gln	Ala	Pro	Thr	Arg	Ala	Arg	Arg	Thr	Thr	Ile
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	65	70	75
Tyr Ala Glu Pro	Ala 80	Pro Glu Asn Asn Ala 85	Leu Asn Thr Gln Thr 90
Gln Pro Lys Ala	His 95	Thr Thr Gly Asp Arg 100	Gly Lys Glu Ala Asn 105
Gln Ala Pro Pro	Glu 110	Glu Gln Asp Lys Val 115	Pro His Thr Ala Gln 120
Arg Ala Ala Trp	Lys 125	Ser Pro Glu Lys Glu 130	Lys Thr Met Val Asn 135
Thr Leu Ser Pro	Arg 140	Gly Gln Asp Ala Gly 145	Met Ala Ser Gly Arg 150
Thr Glu Ala Gln	Ser 155	Trp Lys Ser Gln Asp 160	Thr Lys Thr Thr Gln 165
Gly Asn Gly Gly	Gln 170	Thr Arg Lys Leu Thr 175	Ala Ser Arg Thr Val 180
Ser Glu Lys His	Gln 185	Gly Lys Ala Ala Thr 190	Thr Ala Lys Thr Leu 195
Ile Pro Lys Ser	Gln 200	His Arg Met Leu Ala 205	Pro Thr Gly Ala Val 210
Ser Thr Arg Thr	Arg 215	Gln Lys Gly Val Thr 220	Thr Ala Val Ile Pro 225
Pro Lys Glu Lys	Lys 230	Pro Gln Ala Thr Pro 235	Pro Pro Ala Pro Phe 240
Gln Ser Pro Thr	Thr 245	Gln Arg Asn Gln Arg 250	Leu Lys Ala Ala Asn 255
Phe Lys Ser Glu	Pro 260	Arg Trp Asp Phe Glu 265	Glu Lys Tyr Ser Phe 270
Glu Ile Gly Gly	Leu 275	Gln Thr Thr Cys Pro 280	Asp Ser Val Lys Ile 285
Lys Ala Ser Lys	Ser 290	Leu Trp Leu Gln Lys 295	Leu Phe Leu Pro Asn 300
Leu Thr Leu Phe	Leu 305	Asp Ser Arg His Phe 310	Asn Gln Ser Glu Trp 315
Asp Arg Leu Glu	His 320	Phe Ala Pro Pro Phe 325	Gly Phe Met Glu Leu 330
Asn Tyr Ser Leu	Val 335	Gln Lys Val Val Thr 340	Arg Phe Pro Pro Val 345
Pro Gln Gln Gln	Leu 350	Leu Leu Ala Ser Leu 355	Pro Ala Gly Ser Leu 360
Arg Cys Ile Thr	Cys 365	Ala Val Val Gly Asn 370	Gly Gly Ile Leu Asn 375
Asn Ser His Met	Gly	Gln Glu Ile Asp Ser	His Asp Tyr Val Phe

	380		385		390
Arg Leu Ser Gly	Ala Leu Ile Lys Gly	Tyr Glu Gln Asp Val Gly			
	395	400			405
Thr Arg Thr Ser	Phe Tyr Gly Phe Thr	Ala Phe Ser Leu Thr Gln			
	410	415			420
Ser Leu Leu Ile	Leu Gly Asn Arg Gly	Phe Lys Asn Val Pro Leu			
	425	430			435
Gly Lys Asp Val	Arg Tyr Leu His Phe	Leu Glu Gly Thr Arg Asp			
	440	445			450
Tyr Glu Trp Leu	Glu Ala Leu Leu Met	Asn Gln Thr Val Met Ser			
	455	460			465
Lys Asn Leu Phe	Trp Phe Arg His Arg	Pro Gln Glu Ala Phe Arg			
	470	475			480
Glu Ala Leu His	Met Asp Arg Tyr Leu	Leu Leu His Pro Asp Phe			
	485	490			495
Leu Arg Tyr Met	Lys Asn Arg Phe Leu	Arg Ser Lys Thr Leu Asp			
	500	505			510
Gly Ala His Trp	Arg Ile Tyr Arg Pro	Thr Thr Gly Ala Leu Leu			
	515	520			525
Leu Leu Thr Ala	Leu Gln Leu Cys Asp	Gln Val Ser Ala Tyr Gly			
	530	535			540
Phe Ile Thr Glu	Gly His Glu Arg Phe	Ser Asp His Tyr Tyr Asp			
	545	550			555
Thr Ser Trp Lys	Arg Leu Ile Phe Tyr	Ile Asn His Asp Phe Lys			
	560	565			570
Leu Glu Arg Glu	Val Trp Lys Arg Leu	His Asp Glu Gly Ile Ile			
	575	580			585
Arg Leu Tyr Gln	Arg Pro Gly Pro Gly	Thr Ala Lys Ala Lys Asn			
	590	595			600

<210> 348  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
 cgatgcgcgg acccgggcac cccctcctcc tggggctgct gctggtgctg 50  
 gggccttcgc cggagcagcg agtggaaatt gttcctcgag atctgaggat 100  
 gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150  
 agtgcagcaa acaattccat agactttatc acaacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgccagg cttcttacct ggctggctgt 250  
 cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaac caacagggaa acagaactat 350

ctttatacac atccccctcat ggacaagaga tttatTTTTtg cagacagact 400  
 cttccataag tcctttgagt tttgtatgtt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtac ttgacagtgt tatctgtcac ttatTT 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
 Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Leu Val  
 1 5 10 15  
 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90  
 Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
 gggctgggcc ccgccgcagc tccagctggc cggcttggtc ctgcggtccc 50  
 ttctctggga ggcccgaccc cggccgcgcc cagcccccac catgccaccc 100  
 gcggggctcc gccggggccgc gccgctcacc gcaatcgctc tgttggtgct 150  
 gggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200  
 ggaatggctc ctggcatccg gggtttaact gcgagttcctt caccttctgc 250  
 tgccgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300  
 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctacagctgtg atcctctttg ttgctgtggt tgccaccacc 400  
 atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgccagca 450  
 gctccagagc ccatttgaag gccaggagat tccaatgaca ggcatcccag 500  
 tgcagccagt ataccatac cccaggacc ccaaagctgg ccctgcaccc 550  
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<210> 351  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 351  
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 Asn Cys Glu Phe Phe Thr Phe Cys Cys Gly Thr Cys Tyr His Arg  
 50 55 60  
 Tyr Cys Cys Arg Asp Leu Thr Leu Leu Ile Thr Glu Arg Gln Gln  
 65 70 75  
 Lys His Cys Leu Ala Phe Ser Pro Lys Thr Ile Ala Gly Ile Ala  
 80 85 90  
 Ser Ala Val Ile Leu Phe Val Ala Val Val Ala Thr Thr Ile Cys  
 95 100 105  
 Cys Phe Leu Cys Ser Cys Cys Tyr Leu Tyr Arg Arg Arg Gln Gln  
 110 115 120  
 Leu Gln Ser Pro Phe Glu Gly Gln Glu Ile Pro Met Thr Gly Ile  
 125 130 135  
 Pro Val Gln Pro Val Tyr Pro Tyr Pro Gln Asp Pro Lys Ala Gly  
 140 145 150  
 Pro Ala Pro Pro Gln Pro Gly Phe Met Tyr Pro Pro Ser Gly Pro  
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Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro  
 185 190 195

Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

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 ctgtgaagat gagcacctat ctgggtggcct tcatcatttc agattttgag 850  
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 ttctagaatt ttatgaggat tatttcagca taccgtatcc cctacccaaa 1000  
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 cttctgcata aagtaagctt ggcacacag tgactgtggc ccatgaactg 1150  
 gccaccaggt ggtttgggaa cctggtcact atggaatggt ggaatgatct 1200  
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ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950  
ccttttaaaa ggaacacaca cagcagtcag cagtaatgat cgggcaagtc 2000  
tcattaacaa tgcatttcag ctctgcagca ttgggaagct gtccattgaa 2050  
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cgtgtttcaa gggttgatg agctgattcc tatgtataag ttaatggaga 2150  
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ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250  
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ttggcaggaa cccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
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cgttgtgtcc aacagacaat tgaaccatt gaagaaaaca tcggttggat 2850  
ggataagaat ttgataaaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

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 caacattttg ttgagtgtat tttcaaaacta gagatggctg ttttggctcc 3000  
 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
 aaagaatagc tgtagtttt tcatgaatgg gctttttcat gaatgggcta 3100  
 tcgctaccat gtgttttgtt catcacaggt gttgccctgc aacgtaaacc 3150  
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 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

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 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
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 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75  
 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
 110 115 120  
 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
 125 130 135  
 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
 155 160 165  
 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val



215										220					225				
Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val					
				230					235					240					
Lys	Met	Ser	Thr	Tyr	Leu	Val	Ala	Phe	Ile	Ile	Ser	Asp	Phe	Glu					
				245					250					255					
Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr					
				260					265					270					
Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala					
				275					280					285					
Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro					
				290					295					300					
Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln					
				305					310					315					
Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser					
				320					325					330					
Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu					
				335					340					345					
Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe					
				350					355					360					
Gly	Asn	Leu	Val	Thr	Met	Glu	Trp	Trp	Asn	Asp	Leu	Trp	Leu	Asn					
				365					370					375					
Glu	Gly	Phe	Ala	Lys	Phe	Met	Glu	Phe	Val	Ser	Val	Ser	Val	Thr					
				380					385					390					
His	Pro	Glu	Leu	Lys	Val	Gly	Asp	Tyr	Phe	Phe	Gly	Lys	Cys	Phe					
				395					400					405					
Asp	Ala	Met	Glu	Val	Asp	Ala	Leu	Asn	Ser	Ser	His	Pro	Val	Ser					
				410					415					420					
Thr	Pro	Val	Glu	Asn	Pro	Ala	Gln	Ile	Arg	Glu	Met	Phe	Asp	Asp					
				425					430					435					
Val	Ser	Tyr	Asp	Lys	Gly	Ala	Cys	Ile	Leu	Asn	Met	Leu	Arg	Glu					
				440					445					450					
Tyr	Leu	Ser	Ala	Asp	Ala	Phe	Lys	Ser	Gly	Ile	Val	Gln	Tyr	Leu					
				455					460					465					
Gln	Lys	His	Ser	Tyr	Lys	Asn	Thr	Lys	Asn	Glu	Asp	Leu	Trp	Asp					
				470					475					480					
Ser	Met	Ala	Ser	Ile	Cys	Pro	Thr	Asp	Gly	Val	Lys	Gly	Met	Asp					
				485					490					495					
Gly	Phe	Cys	Ser	Arg	Ser	Gln	His	Ser	Ser	Ser	Ser	Ser	His	Trp					
				500					505					510					
His	Gln	Glu	Gly	Val	Asp	Val	Lys	Thr	Met	Met	Asn	Thr	Trp	Thr					
				515					520					525					
Leu	Gln	Arg	Gly	Phe	Pro	Leu	Ile	Thr	Ile	Thr	Val	Arg	Gly	Arg					

530					535					540				
Asn	Val	His	Met	Lys	Gln	Glu	His	Tyr	Met	Lys	Gly	Ser	Asp	Gly
				545					550					555
Ala	Pro	Asp	Thr	Gly	Tyr	Leu	Trp	His	Val	Pro	Leu	Thr	Phe	Ile
				560					565					570
Thr	Ser	Lys	Ser	Asn	Met	Val	His	Arg	Phe	Leu	Leu	Lys	Thr	Lys
				575					580					585
Thr	Asp	Val	Leu	Ile	Leu	Pro	Glu	Glu	Val	Glu	Trp	Ile	Lys	Phe
				590					595					600
Asn	Val	Gly	Met	Asn	Gly	Tyr	Tyr	Ile	Val	His	Tyr	Glu	Asp	Asp
				605					610					615
Gly	Trp	Asp	Ser	Leu	Thr	Gly	Leu	Leu	Lys	Gly	Thr	His	Thr	Ala
				620					625					630
Val	Ser	Ser	Asn	Asp	Arg	Ala	Ser	Leu	Ile	Asn	Asn	Ala	Phe	Gln
				635					640					645
Leu	Val	Ser	Ile	Gly	Lys	Leu	Ser	Ile	Glu	Lys	Ala	Leu	Asp	Leu
				650					655					660
Ser	Leu	Tyr	Leu	Lys	His	Glu	Thr	Glu	Ile	Met	Pro	Val	Phe	Gln
				665					670					675
Gly	Leu	Asn	Glu	Leu	Ile	Pro	Met	Tyr	Lys	Leu	Met	Glu	Lys	Arg
				680					685					690
Asp	Met	Asn	Glu	Val	Glu	Thr	Gln	Phe	Lys	Ala	Phe	Leu	Ile	Arg
				695					700					705
Leu	Leu	Arg	Asp	Leu	Ile	Asp	Lys	Gln	Thr	Trp	Thr	Asp	Glu	Gly
				710					715					720
Ser	Val	Ser	Glu	Gln	Met	Leu	Arg	Ser	Glu	Leu	Leu	Leu	Leu	Ala
				725					730					735
Cys	Val	His	Asn	Tyr	Gln	Pro	Cys	Val	Gln	Arg	Ala	Glu	Gly	Tyr
				740					745					750
Phe	Arg	Lys	Trp	Lys	Glu	Ser	Asn	Gly	Asn	Leu	Ser	Leu	Pro	Val
				755					760					765
Asp	Val	Thr	Leu	Ala	Val	Phe	Ala	Val	Gly	Ala	Gln	Ser	Thr	Glu
				770					775					780
Gly	Trp	Asp	Phe	Leu	Tyr	Ser	Lys	Tyr	Gln	Phe	Ser	Leu	Ser	Ser
				785					790					795
Thr	Glu	Lys	Ser	Gln	Ile	Glu	Phe	Ala	Leu	Cys	Arg	Thr	Gln	Asn
				800					805					810
Lys	Glu	Lys	Leu	Gln	Trp	Leu	Leu	Asp	Glu	Ser	Phe	Lys	Gly	Asp
				815					820					825
Lys	Ile	Lys	Thr	Gln	Glu	Phe	Pro	Gln	Ile	Leu	Thr	Leu	Ile	Gly
				830					835					840
Arg	Asn	Pro	Val	Gly	Tyr	Pro	Leu	Ala	Trp	Gln	Phe	Leu	Arg	Lys

	845		850		855
Asn Trp Asn Lys	Leu Val Gln Lys Phe	Glu Leu Gly Ser Ser	Ser		
	860		865		870
Ile Ala His Met	Val Met Gly Thr Thr	Asn Gln Phe Ser Thr	Arg		
	875		880		885
Thr Arg Leu Glu	Glu Val Lys Gly Phe	Phe Ser Ser Leu Lys	Glu		
	890		895		900
Asn Gly Ser Gln	Leu Arg Cys Val Gln	Gln Thr Ile Glu Thr	Ile		
	905		910		915
Glu Glu Asn Ile	Gly Trp Met Asp Lys	Asn Phe Asp Lys Ile	Arg		
	920		925		930
Val Trp Leu Gln	Ser Glu Lys Leu Glu	Arg Met			
	935		940		

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 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

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 tcctcaggct caggggagga ggcattctt ccaatctgag agtccaggga 550  
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 ggctgtccac caaaatgagc attcagggtc gcggtggcca accttccagc 1150  
 ttcttggtga accacaccag acaaatcggg atcttctctg cgcgtgagaa 1200  
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 tgggtggggag tggtttgccc ttctgctaa ctctattacc cccacgattc 1350  
 ttcaccgctg ctgaccaccc aactcaacc tccctctgac ctcataacct 1400  
 aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
 cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
 gcctggagca tccggacttg ccctatggga gaggggacgc tggaggagtg 1550  
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<210> 355

<211> 437

<212> PRT

<213> Homo sapiens

<400> 355

Met	Ser	Ala	Val	Leu	Leu	Leu	Ala	Leu	Leu	Gly	Phe	Ile	Leu	Pro	1	5	10	15
Leu	Pro	Gly	Val	Gln	Ala	Leu	Leu	Cys	Gln	Phe	Gly	Thr	Val	Gln	20	25	30	
His	Val	Trp	Lys	Val	Ser	Asp	Leu	Pro	Arg	Gln	Trp	Thr	Pro	Lys	35	40	45	
Asn	Thr	Ser	Cys	Asp	Ser	Gly	Leu	Gly	Cys	Gln	Asp	Thr	Leu	Met	50	55	60	
Leu	Ile	Glu	Ser	Gly	Pro	Gln	Val	Ser	Leu	Val	Leu	Ser	Lys	Gly	65	70	75	
Cys	Thr	Glu	Ala	Lys	Asp	Gln	Glu	Pro	Arg	Val	Thr	Glu	His	Arg	80	85	90	
Met	Gly	Pro	Gly	Leu	Ser	Leu	Ile	Ser	Tyr	Thr	Phe	Val	Cys	Arg	95	100	105	
Gln	Glu	Asp	Phe	Cys	Asn	Asn	Leu	Val	Asn	Ser	Leu	Pro	Leu	Trp	110	115	120	
Ala	Pro	Gln	Pro	Pro	Ala	Asp	Pro	Gly	Ser	Leu	Arg	Cys	Pro	Val	125	130	135	
Cys	Leu	Ser	Met	Glu	Gly	Cys	Leu	Glu	Gly	Thr	Thr	Glu	Glu	Ile	140	145	150	
Cys	Pro	Lys	Gly	Thr	Thr	His	Cys	Tyr	Asp	Gly	Leu	Leu	Arg	Leu				

155										160					165				
Arg	Gly	Gly	Gly	Ile	Phe	Ser	Asn	Leu	Arg	Val	Gln	Gly	Cys	Met					
				170					175					180					
Pro	Gln	Pro	Gly	Cys	Asn	Leu	Leu	Asn	Gly	Thr	Gln	Glu	Ile	Gly					
				185					190					195					
Pro	Val	Gly	Met	Thr	Glu	Asn	Cys	Asn	Arg	Lys	Asp	Phe	Leu	Thr					
				200					205					210					
Cys	His	Arg	Gly	Thr	Thr	Ile	Met	Thr	His	Gly	Asn	Leu	Ala	Gln					
				215					220					225					
Glu	Pro	Thr	Asp	Trp	Thr	Thr	Ser	Asn	Thr	Glu	Met	Cys	Glu	Val					
				230					235					240					
Gly	Gln	Val	Cys	Gln	Glu	Thr	Leu	Leu	Leu	Ile	Asp	Val	Gly	Leu					
				245					250					255					
Thr	Ser	Thr	Leu	Val	Gly	Thr	Lys	Gly	Cys	Ser	Thr	Val	Gly	Ala					
				260					265					270					
Gln	Asn	Ser	Gln	Lys	Thr	Thr	Ile	His	Ser	Ala	Pro	Pro	Gly	Val					
				275					280					285					
Leu	Val	Ala	Ser	Tyr	Thr	His	Phe	Cys	Ser	Ser	Asp	Leu	Cys	Asn					
				290					295					300					
Ser	Ala	Ser	Ser	Ser	Ser	Val	Leu	Leu	Asn	Ser	Leu	Pro	Pro	Gln					
				305					310					315					
Ala	Ala	Pro	Val	Pro	Gly	Asp	Arg	Gln	Cys	Pro	Thr	Cys	Val	Gln					
				320					325					330					
Pro	Leu	Gly	Thr	Cys	Ser	Ser	Gly	Ser	Pro	Arg	Met	Thr	Cys	Pro					
				335					340					345					
Arg	Gly	Ala	Thr	His	Cys	Tyr	Asp	Gly	Tyr	Ile	His	Leu	Ser	Gly					
				350					355					360					
Gly	Gly	Leu	Ser	Thr	Lys	Met	Ser	Ile	Gln	Gly	Cys	Val	Ala	Gln					
				365					370					375					
Pro	Ser	Ser	Phe	Leu	Leu	Asn	His	Thr	Arg	Gln	Ile	Gly	Ile	Phe					
				380					385					390					
Ser	Ala	Arg	Glu	Lys	Arg	Asp	Val	Gln	Pro	Pro	Ala	Ser	Gln	His					
				395					400					405					
Glu	Gly	Gly	Gly	Ala	Glu	Gly	Leu	Glu	Ser	Leu	Thr	Trp	Gly	Val					
				410					415					420					
Gly	Leu	Ala	Leu	Ala	Pro	Ala	Leu	Trp	Trp	Gly	Val	Val	Cys	Pro					
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Ser Cys

<210> 356  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

<400> 356  
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 cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100  
 tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150  
 ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200  
 tgcgggagag aaggagagaca aaggcgcccc cggaaggcct ggaagagtcg 250  
 gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300  
 gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaagg 350  
 agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400  
 catgtgagtgc cagccagctg cgcaaggcca tcggggagat ggacaaccag 450  
 gtctctcagc tgaccagcga gctcaagtcc atcaagaatg ctgtcgccgg 500  
 tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550  
 gctacgcgga cggccagctg tcctgocagg gccgcggggg cagctgagc 600  
 atgccaagg acgaggctgc caatggcctg atggccgcat acctggcgca 650  
 agccggcctg gcccggtgtc tcatcgcat caacgacctg gagaaggagg 700  
 gcgccttcgt gtactctgac cactcccca tgcggaacct caacaagtgg 750  
 cgcagcgggt agccaacaa tgcctacgac gaggaggact gcgtggagat 800  
 ggtggcctcg ggcggtgga acgacgtggc ctgccacacc accatgtact 850  
 tcatgtgtga gtttgacaag gagaacatgt gagcctcagg ctggggctgc 900  
 ccattggggg ccccatatgt cctgcaggg ttggcaggga cagagcccag 950  
 accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000  
 tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050  
 aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100  
 acctgtattg tagcccaat gtcattatgt aattattacc cagaattgct 1150  
 cttccataaa gcttgtgcct ttgtccaagc tatacataaa aatctttaag 1200  
 tagtgagta gttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

<210> 357  
 <211> 271  
 <212> PRT  
 <213> Homo sapiens

<400> 357  
 Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala  
 1 5 10 15  
 Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp  
 20 25 30

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	
				35					40					45	
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	
				50					55					60	
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	
				65					70					75	
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	
				80					85					90	
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	
				95					100					105	
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	
				110					115					120	
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	
				125					130					135	
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	
				140					145					150	
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	
				155					160					165	
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	
				170					175					180	
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	
				185					190					195	
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	
				200					205					210	
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	
				215					220					225	
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	
				230					235					240	
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	
				245					250					255	
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	
				260					265					270	

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttcctag atcccctcca ctcggtttct ctctttgcag 50  
 gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
 tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggt 250  
 cctggggggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
 gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
 gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
 atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
 gggaagaca ggacctttct taccttcagt gagggttcct cggccccttc 500  
 atcccaatca gcttggatcc acaggaaagt cttccctggg aacagaggag 550  
 cagagacott tataagactc toctacggat gtgaatcaag agaacgtccc 600  
 cagctttggc atcctcaagt atccccgag agcagaatag gtactccact 650  
 tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
 caggtgcgca cgctcctggt accctttctc ttccctgttc ttgtaacatt 750  
 cttgtgcttt gactccttct ccatcttttc tacctgaccc tgggtgtggaa 800  
 actgcatagt gaatatcccc aacocccaatg ggcattgact gtagaatacc 850  
 ctagagtcc ttagtggtcc tacattaata atataatgtc tctctctatt 900  
 cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
 aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 359  
 Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
 1 5 10 15  
 Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
 20 25 30  
 Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
 35 40 45  
 Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
 50 55 60  
 Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
 65 70 75  
 Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
 80 85 90  
 Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
 95 100 105  
 Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
 110 115 120



Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
gggcgctctcc ggctgctcct attgagctgt ctgctcgctg tgcccgtgt 50  
gcctgctgtg cccgcgctgt cgcgctgct accgcgtctg ctggacgcgg 100  
gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcgccc 150  
agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
ggagtggagc catgagctgc gtcctgggtg gtgtcatccc cttggggctg 250  
ctgttcctgg tctgcggatc ccaaggctac ctctgccc aactcactct 300  
cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
aacaagcttc ggggccagggt gcagcctcag gcctccaaca tggagtacat 450  
ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
tgtgatggct ggctcagggt ctctctggc aggggaggat cccggctctg 600  
ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650  
ctggagtgca atggcacaat cgtcatgccc tgaacacctt gactcccggg 700  
gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
accatggtgc ccagctagat tttaaatt ttgtggagat gggggctctg 800  
ctacgttgcc caggctggtc ttgaactcct aggetcaagc aatcctcctg 850  
cctcagcctc tcaaagtgtc aggattatag gcatgagtca ccctgtctgg 900  
ctctggctct gttcttaaca ttctgcaaaa acaacacacg tgggttcct 950  
gtgcagagcc tgccctggtg ccttcatgct actcttggtg gctccactgg 1000  
gaacacagct ctcagccttt cccacctgga ggcagagtgg ggaggggccc 1050  
agggtgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
accacctga cttctcctta gcccggtgta gcctcacttt ccacttgag 1150  
agtccttcct cgcgtgggtg ccatgactgt gagataagtc gaggtgtga 1200  
agggcccggc acagactgac ctgcctcccc aaccctagg ctttgctaac 1250  
cgggaaagga gctaacggtg acagaagaca gccaaagtca accctcccgg 1300  
gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa cttccttcct ggctgggtttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggggtcc ctcctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cactgccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatgggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagttag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcacc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly 15  
1 5 10  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu 30  
20 25  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu 45  
35 40  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly 60  
50 55  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val 75  
65 70  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cticattcag tgttgaaaat gaatgccttag tggatctgtg 250  
cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttcccctccc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaatc tgtatgattc tcaaccatct ttagttggga 400  
aaggctcctg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
 aatagaaacc tgtgttttatt ctcaggtatt ttagaaacaa cagccatcat 550  
 tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
 gctatcaaatt attacttcat tcaatataaa taacaatagt agaagttggt 650  
 tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
 ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
 gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
 accagaataa aagttcatat ctaccc 826

<210> 365  
 <211> 67  
 <212> PRT  
 <213> Homo sapiens

<400> 365  
 Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
 1 5 10 15  
 Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
 20 25 30  
 Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
 35 40 45  
 Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
 50 55 60  
 Leu Pro Ser Asp Cys Ser Lys  
 65

<210> 366  
 <211> 2475  
 <212> DNA  
 <213> Homo sapiens

<400> 366  
 gaggatattgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
 tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
 ttttgcagga tgatgggtggc ccttcgagga gcttctgcat tgctggttct 150  
 gttccttgca gctttttctgc ccccgccgca gtgtaccag gaccagcca 200  
 tgggtgatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
 aaatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
 aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
 acaagagtgc agtgggtaac ttggcactga gagttgaacg tgcccaacgg 400  
 gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
 agaggacaag aactggcag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
 ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600  
 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaaacaa cactgttttg gaatttgcaa acatacgggc attcatggag 700  
 gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750  
 gggaacaggc caagtgatct acaaagggtt tctatTTTTT cataaccaag 800  
 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg tttaccagca 900  
 ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
 ccatccactc tgggccaggc acccatagcc atttggttct cacaagatt 1000  
 gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tcctcttggtg tggggttctc tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcacta tcagtgagga ggacttgccc aacttgttct tccccagag 1200  
 accaagaagt cactccatga tcattacaa cccagagat aagcagctct 1250  
 atgcctggaa tgaaggaaac cagatcattt acaaactcca gacaaagaga 1300  
 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gcactgtggc 1350  
 tttggcagct gttctacagg acagtgaggc tatagcccct tcacaatata 1400  
 gtatccctct aatcacacac aggaagagtg tgtagaagtg gaaatacgta 1450  
 tgcctccttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500  
 tgagagcata tcatcaggaa agtttcaaca atgtccatta ctccccaaa 1550  
 cctcctggct ctcaaggatg accacattct gatacagcct acttcaagcc 1600  
 ttttgtttta ctgctcccca gcatttactg taactctgcc atcttccctc 1650  
 ccacaattag agttgtatgc cagcccctaa tattcaccac tggcttttct 1700  
 ctcccctggc ctttgctgaa gctcttccct ctttttcaaa tgtctattga 1750  
 tattctccca ttttactgc ccaactaaaa tactattaat atttcttct 1800  
 tttcttttct ttttttgag acaaggctct actatgttgcc ccaggctggg 1850  
 ctcaaactcc agagctcaag agatcctcct gcctcagcct cctaagtacc 1900  
 tgggattaca ggcatgtgcc accacacctg gcttaaaata ctatttctta 1950  
 ttgaggttta acctctatct cccctagccc tgtccttcca ctaagcttgg 2000  
 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 tacaaagtga aagatacagc tagaaaatac tacaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta agggtgagga cccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
 1 5 10 15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
 20 25 30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
 35 40 45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
 50 55 60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
 65 70 75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
 80 85 90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
 95 100 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
 110 115 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
 125 130 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
 140 145 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
 155 160 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
 170 175 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
 185 190 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
 200 205 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu
				215					220					225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn
				230					235					240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly
				245					250					255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile
				260					265					270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly
				275					280					285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly
				290					295					300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln
				305					310					315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val
				320					325					330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr
				335					340					345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe
				350					355					360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro
				365					370					375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile
				380					385					390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys			
				395					400					

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgcccgc gtactcacta gctgaggtgg cagtgggtcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtcgggtgt gcttggggetg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgcc aaaaagcaa at ggatttccac 200  
 ctgacaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggtgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgatc gcaccatccg catctggagc 400  
 accaaggact tctgcagcg agagcaccgc agcatgagag ccaacgtgga 450

gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
 tegtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
 cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
 aaagcacaag ggcctgtca tcgacattgg cattgctaac acagggaagt 650  
 ttatcatgac tgcoctcagt gacaccactg tcctcatctg gagcctgaag 700  
 ggtcaagtgc tgtctaccat caacaccaac cagatgaaca acacacacgc 750  
 tgctgtatct ccctgtggca gatttgtagc ctctgtgtggc ttcaccccag 800  
 atgtgaaggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850  
 gtggtgcgag ccttcgaact aaagggccac tccgcggctg tgcactcgtt 900  
 tgctttctcc aacgactcac ggaggatggc ttctgtctcc aaggatggta 950  
 catggaaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
 tacttgctga agacaggcog ctttgaagag gcggcgggtg ccgcgccgtg 1050  
 ccgcctggcc ctctcccca acgcccaggt cttggccttg gccagtggca 1100  
 gtagtattca tctctacaat acccggcggg gcgagaagga ggagtgcttt 1150  
 gagcgggtcc atggcgagtg tatcgccaac ttgtcctttg acatcactgg 1200  
 ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250  
 ctctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300  
 gcctccaacg agagcaccog ccagaggctg cagcagcagc tgaccaggc 1350  
 ccaagagacc ctgaagagcc tgggtgcctt gaagaagtga ctctgggagg 1400  
 gcccggcgca gaggattgag gaggagggat ctggcctcct catggcactg 1450  
 ctgccatctt tcctcccagg tggaagcctt tcagaaggag tctcctgggt 1500  
 ttcttactgg tgccctgct tcttccatt gaaactactc ttgtctactt 1550  
 aggtctctct cttcttgctg gctgtgactc ctccctgact agtggccaag 1600  
 gtgcttttct tcctcccagg ccagtggggt ggaatctgtc cccacctggc 1650  
 actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
 tggccttgct gcagcacatc ctcacacca aagaagtttg taaatgttcc 1750  
 agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800  
 ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
 ctaagggatt tccttctggg cctcagttct atttgaaga tggagaataa 1900  
 tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
 agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
 gtcatgaaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
 tatatggttg ggactttctc cttcgggaga tgatatcttg ttttaaggaga 2150  
 cctcttttca gttcatcaag ttcatacagat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
 1 5 10 15  
 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val	
				245					250					255	
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val	
				260					265					270	
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe	
				275					280					285	
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp	
				290					295					300	
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys	
				305					310					315	
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala	
				320					325					330	
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val	
				335					340					345	
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg	
				350					355					360	
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys	
				365					370					375	
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser	
				380					385					390	
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His	
				395					400					405	
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser	
				410					415					420	
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala	
				425					430					435	
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys				
				440					445						

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
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 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagaggtg 100  
 ccacgcgagt ctcaatcatg ctccctcctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgagggtc gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccgccgca gccacaaggc ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgcccacc tgctgtgtgc 350  
 caggttcccg gacggcaggt accgctgtc catggacttg aagaacatca 400

atttttaggc gottgcctgg tctcaggata cccaccatcc ttttcctgag 450  
 cacagcctgg atttttattt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcctta cactgactac cctgatctct cttgtctagt acgcacatat 550  
 gcacacaggc agacatacct cccatcatga catgggtccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctgggtc 650  
 tcttcctgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700  
 cccctcccc tcccagggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggctct ggcctgaccc tcaggccctt 850  
 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatt ttcctcgtat 900  
 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc caggaggaggcc 1000  
 aatcagcccc ctgaagactc tgggtccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgcctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatgggtg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat taggggtgtt ccttaaaca ctcctttcca aggatcagcc 1250  
 ctgagagcag gttggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371

<211> 105

<212> PRT

<213> Homo sapiens

<400> 371

Met	Arg	Gly	Ala	Thr	Arg	Val	Ser	Ile	Met	Leu	Leu	Leu	Val	Thr
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Val	Ser	Asp	Cys	Ala	Val	Ile	Thr	Gly	Ala	Cys	Glu	Arg	Asp	Val
				20					25				30	
Gln	Cys	Gly	Ala	Gly	Thr	Cys	Cys	Ala	Ile	Ser	Leu	Trp	Leu	Arg
				35					40				45	
Gly	Leu	Arg	Met	Cys	Thr	Pro	Leu	Gly	Arg	Glu	Gly	Glu	Glu	Cys
				50					55				60	
His	Pro	Gly	Ser	His	Lys	Val	Pro	Phe	Phe	Arg	Lys	Arg	Lys	His
				65					70				75	

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
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 gaaatgtctt tcctccagga cccaagtctt ttcaccatgg ggatgtgggc 100  
 cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagccccaga aagcggtccct ggagtacctg 200  
 gaggatatac acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttccagcc ttatttcaaa ggagaaatct 450  
 tcctggatga aaagaaaaag ttctatgggc cacaaggcgt gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550  
 gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600  
 gaggtttctg ggtgggatca ggaaagcagg gcattcttct tgagcaccga 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700  
 taagatgatc aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcccc gctcagggat aaccaggac attcacctgt gttcatggga 800  
 tgtattgttt ccaactcgtg ccctaaggag tgagaaacct atttatactc 850  
 tactctcagt atggattatt aatgtatttt aatattctgt ttaggcccac 900  
 taaggcaaaa tagcccaaaa acaagactga caaaaatctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
 aaggtagaca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggg 1150  
 ggcaggcacc tgtagtccca gctacccggg aggctgagga aggagaatca 1200  
 cttgaacctg ggaggtggag gttgcggtga gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
 1 5 10 15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
 20 25 30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
 35 40 45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
 50 55 60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
 65 70 75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
 80 85 90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
 95 100 105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
 110 115 120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
 125 130 135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
 140 145 150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
 155 160 165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
 170 175 180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
 185 190 195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
 200 205 210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
 215 220 225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
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 caaagacgcc cgggccaggt gcccgcgc aggtgccct ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150  
gccacccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250  
ccacttctgc aaatgagaat agcactgttt tgccttcac caccagctcc 300  
agctccgatg gcaacctgog tccggaagcc atcactgcta tcatcgtggt 350  
cttctccctc ttgggtgcct tgcctcctggc tgtggggctg gcactgttgg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccat ctaggtcccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgcctctct 600  
gggcagtcag atccacccag tgcttaatag cagggaagaa ggtacttcaa 650  
agactctgcc cctgagggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
1 5 10 15  
Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120  
Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccacac caatcatctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga ggggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa tttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataagtgtaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
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cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150  
ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250  
tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300  
ccaaaacatg aaaaccataa acatgctgat gttatagtgtg caccacctac 350  
actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450  
caaaatgaat atggaccacc aggcaaaactg tttgtccatg agtgggctca 500  
cctccggtgg ggagtgtttg atgagtacaa tgaagatcag ctttctacc 550  
gtgctaagtc aaaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
ggtagaaata gattttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700  
ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750  
attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850  
ttagcaattc tgaggatttt aaaaacacca taccatgggt gacaccacct 900  
cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
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tgaatcaagc agcaaaacat ttcctgctgc agactgttga aaatggatcc 1050  
tgggtgggga tgggttactt tgatagtact gccactattg taaataagct 1100  
aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
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gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350  
gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500  
aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600  
tgctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650



ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaaggtg ggcacttggg catacaatct tcaagccaaa gcgaacccag 1750  
 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcoct 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaattggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgct gattctttca agaattgatgg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagtctg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aaccggccaa gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatccg gaggtgcatt tgtggtatca 2250  
 caagtcccaa gcttccctt gctgaccaa taccaccaa gtcaaatac 2300  
 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
 caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400  
 ataagtcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
 agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500  
 ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatattt 2550  
 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaactct gatgacattg 2650  
 atcctacacc tactcctact cctaactcta ctcttgataa aagtcataat 2700  
 tctggagtta atattttctac gctgggtattg tctgtgattg ggtctgttgt 2750  
 aattgttaac tttattttta gtaccaccat ttgaacctta acgaagaaaa 2800  
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 gtaaaggata tttctgaatc ttaaaattca tccatgtgt gatcataaac 2900  
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<212> PRT

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Gln	Ile	Lys	Ser	Ser	Asp	Glu	Arg	Asn	Thr	Leu	Met	Ala	Gly	Leu					
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His	Glu	Asp	Lys	770	Ile	Ile	Leu	Thr	Trp	775	Thr	Ala	Pro	Gly	Asp	Asn	780
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 Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu  
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 Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser  
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Leu	Ala	Phe	Leu	His	Ser	Gln	Val	Asp	Lys	Ala	Glu	Val	Asn	Ala
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Gly	Val	Lys	Leu	Ala	Thr	Glu	Tyr	Ala	Ala	Val	Pro	Phe	Asp	Ser
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Phe	Thr	Leu	Gln	Lys	Val	Tyr	Gln	Leu	Glu	Thr	Gly	Leu	Thr	Arg
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His	Pro	Glu	Glu	Lys	Pro	Val	Arg	Lys	Asp	Lys	Arg	Asp	Glu	Leu
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Val	Glu	Ala	Ile	Glu	Ser	Ala	Leu	Glu	Thr	Leu	Asn	Asn	Pro	Ala
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Glu	Gly	Ile	Tyr	Arg	Thr	Glu	Arg	Asp	Lys	Gly	Thr	Leu	Tyr	Glu
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Asn	Pro	Gly	Ile	Ile	Tyr	Gly	His	His	Asp	Ala	Val	Pro	Pro	Leu
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				425					430					435	
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Val	His	Leu	Tyr	Arg	Lys	Tyr	Leu	His	Ser	Asn	Leu	Ile	Val	Val	
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Arg	Thr	Pro	Val	Arg	Gly	Leu	Phe	His	Leu	Trp	His	Glu	Lys	Arg	
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Cys	Met	Asp	Glu	Leu	Thr	Pro	Glu	Gln	Tyr	Lys	Met	Cys	Met	Gln	
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Ser	Lys	Ala	Met	Asn	Glu	Ala	Ser	His	Gly	Gln	Leu	Gly	Met	Leu	
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<210> 386

<211> 1346

<212> DNA

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aattaaacat ttgtttctgt gtgactgtg agcatctga aataccaaga 750  
gcagatcata tattttgttt caccattctt cttttgtaat aaattttgaa 800  
tgtgcttgaa agtgaaaagc aatcaattat acccaccac accactgaaa 850  
tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900  
tagtgtataa atgtggtcat gtggtatttg tagttattga ttttaagcatt 950  
tttagaaata agatcaggca tatgtatata ttttcacact tcaaagacct 1000  
aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050  
tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100  
actaagtaaa caaaagtgag aagtaattat tgtaaatgga tggataaaaa 1150  
tggaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200  
gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

gttgaccatt tctacaattt gtaaaagtcc aatctgtgct aacttaataa 1300

agtaataatc atctctttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387  
<211> 212  
<212> PRT  
<213> Homo sapiens

<400> 387  
Met Leu Trp Leu Leu Phe Phe Leu Val Thr Ala Ile His Ala Glu  
1 5 10 15  
Leu Cys Gln Pro Gly Ala Glu Asn Ala Phe Lys Val Arg Leu Ser  
20 25 30  
Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45  
Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
50 55 60  
Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
65 70 75  
Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
80 85 90  
Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105  
Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
110 115 120  
Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro  
125 130 135  
Met Asp Pro Ser Val Pro Ile Trp Ile Ile Ile Phe Gly Val Ile  
140 145 150  
Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly  
155 160 165  
Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp  
170 175 180  
Asp Ala Glu Asp Lys Cys Glu Asn Met Ile Thr Ile Glu Asn Gly  
185 190 195  
Ile Pro Ser Asp Pro Leu Asp Met Lys Gly Gly Ile Leu Met Met  
200 205 210  
  
Pro Ser

<210> 388  
<211> 1371  
<212> DNA  
<213> Homo sapiens

<400> 388  
aactcaaact cctctctctg ggaaaacgog gtgcttgctc ctcccggagt 50

ggccttggca ggggtgttga gccctcggtc tgccccgtcc ggtctctggg 100  
 gccaaaggctg ggtttccctc atgtatggca agagctctac tcgtgcggtg 150  
 cttctttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
 ggaaatttat acctcccggg tgctggaggc tgtaaatggg acagatgctc 250  
 ggttaaaatg cactttctcc agctttgccc ctgtgggtga tgctetaaca 300  
 gtgacctgga attttcgtcc tctagacggg ggacctgagc agtttgtatt 350  
 ctactaccac atagatccct tccaacccat gagtgggcgg tttaaggacc 400  
 ggggtgtcttg ggatgggaat cctgagcggg acgatgcctc catccttctc 450  
 tggaaactgc agttogacga caatgggaca tacacctgcc aggtgaagaa 500  
 cccacctgat gttgatgggg tgatagggga gatccggctc agcgtcgtgc 550  
 aactgtacg cttctctgag atccacttcc tggctctggc cattggctct 600  
 gcctgtgcac tgatgatcat aatagtaatt gtagtgggcc tcttcagca 650  
 ttaccggaaa aagcgatggg ccgaaagagc tcataaagtg gtggagataa 700  
 aatcaaaaga agaggaaagg ctcaaccaag agaaaaaggt ctctgtttat 750  
 ttagaagaca cagactaaca attttagatg gaagctgaga tgatttccaa 800  
 gaacaagaac ctagtatatt ctgaagtta atggaaactt ttctttggct 850  
 tttccagttg tgaccogttt tccaaccagt tctgcagcat attagattct 900  
 agacaagcaa caccctctg gagccagcac agtgctcctc catatcacca 950  
 gtcatacaca gcctcattat taaggtctta tttaatttca gagtgtaaat 1000  
 tttttcaagt gctcattagg ttttataaac aagaagctac atttttgccc 1050  
 ttaagacaact acttacagtg ttatgacttg tatacacata tattgggtatc 1100  
 aaaggggata aaagccaatt tgtctgttac atttcctttc acgtattttct 1150  
 tttagcagca cttctgttac taaagttaat gtgtttactc tctttccttc 1200  
 ccacattctc aattaaaagg tgagctaagc ctctcgggtg tttctgatta 1250  
 acagtaaato ctaaattcaa actgttaaat gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttgtttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttgtc g 1371

<210> 389  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Met Tyr Gly Lys Ser Ser Thr Arg Ala Val Leu Leu Leu Leu Gly  
 1 5 10 15

Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	
				20					25					30	
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	
				35					40					45	
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	
				50					55					60	
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	
				65					70					75	
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	
				80					85					90	
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	
				95					100					105	
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	
				110					115					120	
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	
				125					130					135	
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	
				140					145					150	
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	
				155					160					165	
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	
				170					175					180	
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	
				185					190					195	
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	
				200					205					210	
Leu	Glu	Asp	Thr	Asp											
				215											

<210> 390  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 390  
 ccgaggccat ctagaggcca gagc 24  
  
 <210> 391  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 391  
 acaggcagag ccaatggcca gagc 24

<210> 392  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 392  
gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
<211> 471  
<212> DNA  
<213> Homo sapiens

<400> 393  
gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
agcagtcctg gtactcttgg gagtttccat ctttctggtc tctgccaga 100  
atccgacaac agctgctcca gctgacacgt atccagctac tggtcctgct 150  
gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccactgcgac 200  
cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
tattcatgct tctgtgatt tcatccaact acttaccttg cctacgatat 400  
ccccctttatc tctaatacgt ttattttctt tcaaataaaa aataactatg 450  
agcaacataa aaaaaaaaaa a 471

<210> 394  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 394  
Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
1 5 10 15  
Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
20 25 30  
Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
35 40 45  
Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
50 55 60  
Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
65 70 75  
Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
80 85 90

<210> 395  
<211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
caggacaca ctctaccatt cgaggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggtcc 50  
aaccttggac ccctaggggt ctggatttgc tggtaacaa gataacctga 100  
gggcaggacc ccctagggga atgctacctc ctgcccttcc acctgccctg 150  
gtgttcaagg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca ggggtggggg cggcaaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgogggc catggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaagagct ttcattgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cggtggctca cgctgtaat 650

cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcactgg tagtoccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaacccagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
     1                    5                    10                    15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
                     20                    25                    30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
                     35                    40                    45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
                     50                    55                    60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
                     65                    70                    75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
                     80                    85                    90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
                     95                    100                    105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
                     110                    115                    120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcatgccag tgcctgctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccatgggcgg ccagaaactg gcacagcatg 100  
 aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggccggga tgcagcccag gaacttcggg caagcctggt ggagactcag 300  
 atggaggagg atatctctgca gctgcaggca gaggccacag ctgaggtgct 350  
 gggggagggt gcccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtottaa aggctcagc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggcccctgtg cagggaggag ctgcctgttc actgggatca 700  
 gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggcagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc tttcatgcct acacaccct cattaaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
 ggcaacatgg ctacgcagggc ttgccccaga gccatggcaa agaattggact 50  
 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaactgcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcacaa gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 caggtgtcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450  
 aagtttgttg acgtcaacgg aatcgctatc tccttcctca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctotaag atcaagtaaa 700  
 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga tttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtcca 1100  
 tgctggcaat aataccttgt cagcccatca cccttatttt gaattgctcc 1150  
 atctcctggg gggacttgta tcttgtctgc catatcagaa cacaacccc 1200  
 tgaagagggt ctgatttgat tttttttttt tcttcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa ttgaaatga aatgacaagg tgtatatttg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatcttgga aattgcatac 1600  
 gtctgtgcaa ttttttattc tgccatagtc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggagggaaa tgggcttttt agaagcaaac aatttttaaat atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165									
Ala	Gln	Pro	Asn	Gly	Gly	Lys	Arg	Glu	Asn	Cys	Val	Leu	Phe	Ser
				170					175					180
Gln	Ser	Ala	Gln	Gly	Lys	Trp	Ser	Asp	Glu	Ala	Cys	Arg	Ser	Ser
				185					190					195
Lys	Arg	Tyr	Ile	Cys	Glu	Phe	Thr	Ile	Pro	Lys				
				200					205					

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctggttatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gcccgcagcc ccgcgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaaccccct cggcaccctc aaccgcgtga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgaggggtga 450  
 aaaccccgcc gcgggggagga ccgtccatcc ccttcccccg gcccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
     1                    5                    10                    15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
                     20                    25                    30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
                     35                    40                    45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
                     50                    55                    60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
                     65                    70                    75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
                     80                    85                    90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
                     95                    100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aagggaggca ctccctggcc tccgcagccg atcacatgaa ggtggtgcca 100  
 agtctcctgc tctccgtcct cctggcacag gtgtggctgg tacccggtt 150  
 ggccccagct cctcagtcgc cagagacccc agcccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaaggaga cttcaaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttggcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggctcc acttgcaggc cctgaagccc accaagccc 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttatc caagaggtat ttgatacag 650  
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 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaatg gttgacccca ttgaccctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccata tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtgtcct catggagaaa 1000  
 atgggtgacc acctcgccct tgaagactac ctgaccacag acttgggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
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 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgattg 1250  
 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttogtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc tttgttctt aactagttaa ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
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 ttctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattocat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950  
 tggaattttt catttaatgt ttttgacca tggttgacca tggttaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
 <211> 444  
 <212> PRT  
 <213> Homo sapiens

<400> 410

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Leu	Leu	Ala	Gln
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Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Glu
				20					25					30
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro
				35					40					45
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala
				50					55					60
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu
				65					70					75
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile
				80					85					90
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met
				95					100					105
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr
				110					115					120
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro
				125					130					135
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu
				140					145					150
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe
				155					160					165
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn
				170					175					180
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe
				185					190					195
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn
				200					205					210
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Leu	Phe	Asp	Glu	Ile	Asn
				215					220					225
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly
				230					235					240
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr
				245					250					255
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr
				260					265					270
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys
				275					280					285

His Val Leu Lys Leu Pro Tyr Gln Gly Asn Ala Thr Met Leu Val	290	295	300
Val Leu Met Glu Lys Met Gly Asp His Leu Ala Leu Glu Asp Tyr	305	310	315
Leu Thr Thr Asp Leu Val Glu Thr Trp Leu Arg Asn Met Lys Thr	320	325	330
Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys Leu Asp Gln Lys	335	340	345
Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile Arg Arg Ile	350	355	360
Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr Gly Arg	365	370	375
Asn Leu Gln Val Ser Arg Val Leu Arg Arg Thr Val Ile Glu Val	380	385	390
Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile	395	400	405
Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe	410	415	420
His Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu	425	430	435
Gly Arg Val Val Asn Pro Thr Leu Leu	440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccaactgcagc tccctgagca ctctctacag agacgcggac 50  
 cccagacatg aggaggctcc tcttggtcac cagcctggtg gttgtgctgc 100  
 tgtgggagggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 aggggccccca tcttccagg caccaaggcc tggatggaga ccgaggacac 350  
 cctggggcgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600



aataaaccccc agcaggcaaaa aaaaaaaaaa aaaaaa 636

<210> 412

<211> 151

<212> PRT

<213> Homo sapiens

<400> 412

Met	Arg	Arg	Leu	Leu	Leu	Val	Thr	Ser	Leu	Val	Val	Val	Leu	Leu
1				5					10				15	
Trp	Glu	Ala	Gly	Ala	Val	Pro	Ala	Pro	Lys	Val	Pro	Ile	Lys	Met
			20						25				30	
Gln	Val	Lys	His	Trp	Pro	Ser	Glu	Gln	Asp	Pro	Glu	Lys	Ala	Trp
			35						40				45	
Gly	Ala	Arg	Val	Val	Glu	Pro	Pro	Glu	Lys	Asp	Asp	Gln	Leu	Val
			50						55				60	
Val	Leu	Phe	Pro	Val	Gln	Lys	Pro	Lys	Leu	Leu	Thr	Thr	Glu	Glu
			65						70				75	
Lys	Pro	Arg	Gly	Gln	Gly	Arg	Gly	Pro	Ile	Leu	Pro	Gly	Thr	Lys
			80						85				90	
Ala	Trp	Met	Glu	Thr	Glu	Asp	Thr	Leu	Gly	Arg	Val	Leu	Ser	Pro
			95						100				105	
Glu	Pro	Asp	His	Asp	Ser	Leu	Tyr	His	Pro	Pro	Pro	Glu	Glu	Asp
			110						115				120	
Gln	Gly	Glu	Glu	Arg	Pro	Arg	Leu	Trp	Val	Met	Pro	Asn	His	Gln
			125						130				135	
Val	Leu	Leu	Gly	Pro	Glu	Glu	Asp	Gln	Asp	His	Ile	Tyr	His	Pro
			140						145				150	

Gln

<210> 413

<211> 1176

<212> DNA

<213> Homo sapiens

<400> 413

agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
aggagctctc tgtacccaag gaaagtgcag ctgagactca gacaagatta 100  
caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150  
tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250  
gtgcatttga tggcctgtat ttctcgcga ctgagaatgg tggtatctac 300  
cagaccttct gtgacatgac ctctgggggt ggcggtctga ccctgggtggc 350  
cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggacagtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atatggagaa ggaaagtgtt 700  
 ggactgacaa cggcccggtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctaccctat ggccagcggg aattcactgc 800  
 gggatttggt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgctgg aatgaggggt accggatgta aactgagca tctactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagt gtggagattt 950  
 ttctggtttt gattggagtg gatatggaac tcatgttggt tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctcca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 414  
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg  
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 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr  
 20 25 30  
 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys  
 35 40 45  
 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr  
 50 55 60  
 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly  
 65 70 75  
 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met  
 80 85 90  
 Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly  
 95 100 105  
 Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr  
 110 115 120  
 Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

125										130					135				
Asn	Pro	Gly	Tyr	Tyr	Asp	Ile	Gln	Ala	Lys	Asp	Leu	Gly	Ile	Trp					
				140					145					150					
His	Val	Pro	Asn	Lys	Ser	Pro	Met	Gln	His	Trp	Arg	Asn	Ser	Ser					
				155					160					165					
Leu	Leu	Arg	Tyr	Arg	Thr	Asp	Thr	Gly	Phe	Leu	Gln	Thr	Leu	Gly					
				170					175					180					
His	Asn	Leu	Phe	Gly	Ile	Tyr	Gln	Lys	Tyr	Pro	Val	Lys	Tyr	Gly					
				185					190					195					
Glu	Gly	Lys	Cys	Trp	Thr	Asp	Asn	Gly	Pro	Val	Ile	Pro	Val	Val					
				200					205					210					
Tyr	Asp	Phe	Gly	Asp	Ala	Gln	Lys	Thr	Ala	Ser	Tyr	Tyr	Ser	Pro					
				215					220					225					
Tyr	Gly	Gln	Arg	Glu	Phe	Thr	Ala	Gly	Phe	Val	Gln	Phe	Arg	Val					
				230					235					240					
Phe	Asn	Asn	Glu	Arg	Ala	Ala	Asn	Ala	Leu	Cys	Ala	Gly	Met	Arg					
				245					250					255					
Val	Thr	Gly	Cys	Asn	Thr	Glu	His	His	Cys	Ile	Gly	Gly	Gly	Gly					
				260					265					270					
Tyr	Phe	Pro	Glu	Ala	Ser	Pro	Gln	Gln	Cys	Gly	Asp	Phe	Ser	Gly					
				275					280					285					
Phe	Asp	Trp	Ser	Gly	Tyr	Gly	Thr	His	Val	Gly	Tyr	Ser	Ser	Ser					
				290					295					300					
Arg	Glu	Ile	Thr	Glu	Ala	Ala	Val	Leu	Leu	Phe	Tyr	Arg							
				305					310										

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag cccacgaggc tgccgcatcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcctggggac gctgcaggtg 150  
 ctagcgctgc tgggggcccgc ccatgaaagc gcagccatgg cggcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgtt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtttacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttggtggta ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taatttttgg ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattottcaa ggtaacaagg gtttgggttt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gtttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctggggtggg 1000  
ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
tggatatatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgctttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

125	130	135
Thr His Asn Ser Ser Val Thr Ser Ala Ala Ser Ser Val Thr Ile		
140	145	150
Thr Thr Thr Met His Ser Glu Ala Lys Lys Gly Ser Lys Phe Asp		
155	160	165
Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr Leu Gly Val Leu		
170	175	180
Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser Arg Arg Gly		
185	190	195
Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile		
200	205	

<210> 417  
 <211> 1728  
 <212> DNA  
 <213> Homo sapiens

<400> 417  
 cagccggggtc ccaagcctgt gcctgagcct gagcctgagc ctgagcccgga 50  
 gccgggagacc ggctgcggggg gctccgggct gtgggaccgc tgggccccca 100  
 gcgatggcga ccctgtgggg aggccttctt cggcttggct ccttgctcag 150  
 cctgtogtgc ctggcgcttt cctgtctgct gctggcgagc ctgtcagacg 200  
 ccgccaagaa ttctgaggat gtcagatgta aatgtatctg cctccctat 250  
 aaagaaaatt ctgggcatat ttataataag aacatatctc agaaagattg 300  
 tgattgcott catgttgttg agcccatgcc tgtgcggggg cctgatgtag 350  
 aagcatactg tctacgctgt gaatgcaa atgaagaaag aagctctgtc 400  
 acaatcaagg ttaccattat aatttatctc tccatttttg gccttctact 450  
 tctgtacatg gtatatctta ctctggttga gcccatactg aagaggcgcc 500  
 tctttggaca tgcacagttg atacagagt atgatgat atggggatcac 550  
 cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
 caacgtgctg aacaaggtag aatatgcaca gcagcgttg aagcttcaag 650  
 tccaagagca gcgaaagtct gtctttgacc ggcatgttgt cctcagctaa 700  
 ttgggaattg aattcaaggt gactagaaag aaacaggcag acaactggaa 750  
 agaactgact gggttttgct gggtttcatt ttaatacctt gttgatttca 800  
 ccaactgttg ctggaagatt caaaaactgga agcaaaaact tgcttgattt 850  
 ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
 aaagtcagcc aataagctt ttctatttg tgacttttac taataaaaat 950  
 aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcaggggtt 1050  
 tttgttggtg ttgttttttg tttgtttggt ttggtgggag aggggagggga 1100  
 tgcctgggaa gtggttaaca acttttttca agtcacttta ctaaacaac 1150  
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 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggtcgtggt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg ggttggtggg gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His Ala Gln Leu Ile Gln Ser Asp Asp Asp Ile Gly Asp His Gln  
140 145 150

Pro Phe Ala Asn Ala His Asp Val Leu Ala Arg Ser Arg Ser Arg  
155 160 165

Ala Asn Val Leu Asn Lys Val Glu Tyr Ala Gln Gln Arg Trp Lys  
170 175 180

Leu Gln Val Gln Glu Gln Arg Lys Ser Val Phe Asp Arg His Val  
185 190 195

Val Leu Ser

<210> 419  
<211> 681  
<212> DNA  
<213> Homo sapiens

<400> 419  
gcacctgcga ccaccgtgag cagtcattggc gtactccaca gtgcagagag 50  
tcgctctggc ttctgggctt gtcttggttc tgtcgctgct gctgcccaag 100  
gccttcctgt ccgcggggaa gcggcaggag ccgccgccga cacctgaagg 150  
aaaattgggc cgatttccac ctatgatgca tcatcaccag gcaccctcag 200  
atggccagac tcttgggggt cgtttccaga ggtctcacct tgccgaggca 250  
tttgcaaagg ccaaaggatc aggtggaggt gctggaggag gaggtagtgg 300  
aagaggctctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
tatatatact gtacattcta ttaaggttaa gtagaatcat cctaatacata 400  
ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
aacttcttat agttcataaa attatttcaa atccatcatc tctttaaatc 500  
ctgcctcttc ttcatgaggt acttaggata gccattattt cagtttcaca 550  
taagaatgtt tactcaatgt ttaagtgtt tgccccaaaa ttcacaacta 600  
acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
gagtataca attcaatgca ctcccctgcc a 681

<210> 420  
<211> 128  
<212> PRT  
<213> Homo sapiens

<400> 420  
Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
1 5 10 15  
Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
20 25 30  
Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
35 40 45

Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly  
50 55 60  
Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala  
65 70 75  
Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly Ala Gly Gly Gly Gly  
80 85 90  
Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe  
95 100 105  
Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg  
110 115 120  
Ile Ile Leu Ile Ile Leu His Gln  
125

<210> 421  
<211> 1630  
<212> DNA  
<213> Homo sapiens

<400> 421  
cggtctgagt gcagctgtgg ggagatttca gtgcattgcc tcccctgggt 50  
gctcttcac tttgatttga aagttgagag cagcatgttt tgcccactga 100  
aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150  
ttgaatgttt ccccgctga gctaacagtc catgtgggtg attcagctct 200  
gatgggatgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250  
actggactct gtcaccagga gagcacgcca aggacgaata tgtgctatac 300  
tattactcca atctcagtgt gcctattggg cgcttccaga accgcgtaca 350  
cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400  
tgcaagaggc tgaccagga acctatatct gtgaaatcgg cctcaaaggg 450  
gagagccagg tgttcaagaa ggcgtggta ctgcatgtgc ttccagagga 500  
gccc aaagag ctcatggtcc atgtgggtgg attgattcag atgggatgtg 550  
ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
tcaggacggc ggc aaagga ggagattgta tttogttact accacaaact 650  
caggatgtct gtggagtact ccagagctg gggcacttc cagaatcgtg 700  
tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
ctcgaacact ggtgaccccg gcagccctga ggctctggt cttgggtggt 900  
aatcagttgg tgatcattgt gggaattgtc tgtgccacaa tcctgctgct 950  
ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattht tgaagatgt gaaggggaga aacacattta 1100  
ctccccata attgtacggg aggtgatcga ggaagaagaa ccaagtgaat 1150  
aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
gggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
agactccgc tctccagct gtctcctgt ctcatgttt ggtcaatata 1400  
ctgaagatgg agaatttga gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
aactggccc tgggaaccag gctgagctga gtggcctcaa accccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaacaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
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Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

	155	160	165
Thr Lys Val Glu	Trp Ile Phe Ser Gly	Arg Arg Ala Lys Glu	Glu
	170	175	180
Ile Val Phe Arg	Tyr Tyr His Lys Leu	Arg Met Ser Val Glu	Tyr
	185	190	195
Ser Gln Ser Trp	Gly His Phe Gln Asn	Arg Val Asn Leu Val	Gly
	200	205	210
Asp Ile Phe Arg	Asn Asp Gly Ser Ile	Met Leu Gln Gly Val	Arg
	215	220	225
Glu Ser Asp Gly	Gly Asn Tyr Thr Cys	Ser Ile His Leu Gly	Asn
	230	235	240
Leu Val Phe Lys	Lys Thr Ile Val Leu	His Val Ser Pro Glu	Glu
	245	250	255
Pro Arg Thr Leu	Val Thr Pro Ala Ala	Leu Arg Pro Leu Val	Leu
	260	265	270
Gly Gly Asn Gln	Leu Val Ile Ile Val	Gly Ile Val Cys Ala	Thr
	275	280	285
Ile Leu Leu Leu	Pro Val Leu Ile Leu	Ile Val Lys Lys Thr	Cys
	290	295	300
Gly Asn Lys Ser	Ser Val Asn Ser Thr	Val Leu Val Lys Asn	Thr
	305	310	315
Lys Lys Thr Asn	Pro Glu Ile Lys Glu	Lys Pro Cys His Phe	Glu
	320	325	330
Arg Cys Glu Gly	Glu Lys His Ile Tyr	Ser Pro Ile Ile Val	Arg
	335	340	345
Glu Val Ile Glu	Glu Glu Glu Pro Ser	Glu Lys Ser Glu Ala	Thr
	350	355	360
Tyr Met Thr Met	His Pro Val Trp Pro	Ser Leu Arg Ser Asp	Arg
	365	370	375
Asn Asn Ser Leu	Glu Lys Lys Ser Gly	Gly Gly Met Pro Lys	Thr
	380	385	390
Gln Gln Ala Phe			

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
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 ccatctcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcggaagc catgcaggat gaagatggat 200

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
 cctgcatcct cctcctggtg gcgtgtgatg gctttgattc tgctgatoct 300  
 gtgcgtgggg atggttgctg ggctgggtggc tctggggatt tggctctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
 aaagggcact ttcaaaggct ataaatgcag cccctgtgac acaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacia cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaatto 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
 aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggcttta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950  
 aaaaaaaaaa aaa 963

<210> 424

<211> 229

<212> PRT

<213> Homo sapiens

<400> 424

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Lys	Pro	Ala	Leu	Val	Ser	Val	Gly	Pro	Ala	Ser	Ser	Ser	Trp	Trp
				20					25					30
Arg	Val	Met	Ala	Leu	Ile	Leu	Leu	Ile	Leu	Cys	Val	Gly	Met	Val
				35					40					45
Val	Gly	Leu	Val	Ala	Leu	Gly	Ile	Trp	Ser	Val	Met	Gln	Arg	Asn
				50					55					60
Tyr	Leu	Gln	Asp	Glu	Asn	Glu	Asn	Arg	Thr	Gly	Thr	Leu	Gln	Gln
				65					70					75
Leu	Ala	Lys	Arg	Phe	Cys	Gln	Tyr	Val	Val	Lys	Gln	Ser	Glu	Leu
				80					85					90
Lys	Gly	Thr	Phe	Lys	Gly	His	Lys	Cys	Ser	Pro	Cys	Asp	Thr	Asn
				95					100					105
Trp	Arg	Tyr	Tyr	Gly	Asp	Ser	Cys	Tyr	Gly	Phe	Phe	Arg	His	Asn
				110					115					120
Leu	Thr	Trp	Glu	Glu	Ser	Lys	Gln	Tyr	Cys	Thr	Asp	Met	Asn	Ala

	125		130		135									
Thr	Leu	Leu	Lys	Ile	Asp	Asn	Arg	Asn	Ile	Val	Glu	Tyr	Ile	Lys
				140					145					150
Ala	Arg	Thr	His	Leu	Ile	Arg	Trp	Val	Gly	Leu	Ser	Arg	Gln	Lys
				155					160					165
Ser	Asn	Glu	Val	Trp	Lys	Trp	Glu	Asp	Gly	Ser	Val	Ile	Ser	Glu
				170					175					180
Asn	Met	Phe	Glu	Phe	Leu	Glu	Asp	Gly	Lys	Gly	Asn	Met	Asn	Cys
				185					190					195
Ala	Tyr	Phe	His	Asn	Gly	Lys	Met	His	Pro	Thr	Phe	Cys	Glu	Asn
				200					205					210
Lys	His	Tyr	Leu	Met	Cys	Glu	Arg	Lys	Ala	Gly	Met	Thr	Lys	Val
				215					220					225

Asp Gln Leu Pro

<210> 425  
 <211> 24  
 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 426  
 ctgagataac cgagccatcc tcccac 26

<210> 427  
 <211> 49  
 <212> DNA  
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<220>  
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<400> 427  
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<210> 428  
 <211> 21  
 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgccctc cctgcca 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 430  
 caaaaagcct ggaagtcttc aaag 24  
  
 <210> 431  
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 cagctggact gcaggtgcta 20  
  
 <210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 432  
 cagtgagcac agcaagtgtc ct 22  
  
 <210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 433  
 ggccacctcc ttgagtcttc agttccct 28  
  
 <210> 434  
 <211> 24  
 <212> DNA  
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<220>  
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<400> 434  
caactactgg ctaaaagctgg tgaa 24

<210> 435  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 435  
ccitttctgta taggtgatac ccaatga 27

<210> 436  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 436  
tgccatccc taccagaggc aaaa 24

<210> 437  
<211> 22  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 437  
ctgaagacga cgcgattac ta 22

<210> 438  
<211> 19  
<212> DNA  
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<220>  
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<400> 438  
ggcagaaatg ggaggcaga 19

<210> 439  
<211> 30  
<212> DNA  
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<220>  
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<400> 439  
tgctctgttg gctacggctt tagtccctag 30

<210> 440  
<211> 22

<212> DNA  
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 <400> 440  
 agcagcagcc atgtagaatg aa 22  
  
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 <211> 22  
 <212> DNA  
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 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
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 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 443  
 tctagccagc ttggctccaa ta 22  
  
 <210> 444  
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 <210> 445  
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 <400> 445  
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<210> 446  
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 <212> DNA  
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 <400> 446  
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 <211> 22  
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 <400> 447  
 octgaagggc ttggagctta gt 22  
  
 <210> 448  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 448  
 tctttggcca tttcccatgg ctca 24  
  
 <210> 449  
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 <210> 450  
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 <400> 450  
 tgcgtacgtg tgccttcag 19  
  
 <210> 451  
 <211> 24  
 <212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe



<400> 451  
 cagcacccca ggcagtctgt gtgt 24

<210> 452  
 <211> 24  
 <212> DNA  
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<400> 452  
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<210> 453  
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<220>  
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<400> 453  
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<210> 454  
 <211> 31  
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<220>  
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<400> 454  
 ttgtttagtt ctccaccgtg tctccacaga a 31

<210> 455  
 <211> 21  
 <212> DNA  
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<220>  
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<400> 455  
 tgtcagaatg caacctggct t 21

<210> 456  
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<220>  
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<400> 456  
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<210> 457  
 <211> 24  
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<220>  
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<400> 457  
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<210> 458  
<211> 20  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 458  
aagatgcgcc aggcttctta 20

<210> 459  
<211> 24  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 459  
ctcctgtacg gtctgctcac ttat 24

<210> 460  
<211> 24  
<212> DNA  
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<220>  
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<400> 460  
tggctgtcag tccagtgtgc atgg 24

<210> 461  
<211> 29  
<212> DNA  
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<220>  
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<400> 461  
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<210> 462  
<211> 27  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 462  
caaattaaag taccatcag gagagaa 27

<210> 463  
<211> 37

<212> DNA  
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 <220>  
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 <400> 463  
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 <210> 464  
 <211> 20  
 <212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
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 <400> 465  
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 <210> 466  
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 <210> 467  
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 <400> 467  
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 <210> 468  
 <211> 23  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
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<210> 469  
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 <400> 469  
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 <400> 470  
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 <210> 471  
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 <400> 471  
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<210> 475  
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<220>  
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<400> 475  
accgcctacc gctgtgccca 20

<210> 476  
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<220>  
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<400> 476  
cagtaaaacc acaggctgga ttt 23

<210> 477  
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<220>  
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<400> 477  
cctgagagca agaaggttga gaat 24

<210> 478  
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<400> 478  
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<210> 480  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 480  
tccacacttg gccagtttat 20

<210> 481  
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<212> DNA  
<213> Artificial Sequence

<220>  
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<400> 481  
cccaacttct cccttttgga ccct 24

<210> 482  
<211> 24  
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<220>  
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<400> 482  
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<210> 483  
<211> 26  
<212> DNA  
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<220>  
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<400> 483  
actctcccc tcaacagcct cctgag 26

<210> 484  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 484  
gtggtcaggg cagatccttt 20

<210> 485  
<211> 23  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 485  
acagatccag gagagactcc aca 23

<210> 486  
<211> 21

<212> DNA  
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 agcggcgctc ccagcctgaa t 21  
  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 487  
 catgattggc cctcagttcc atc 23  
  
 <210> 488  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 488  
 atagaggggc cccagaagtg 20  
  
 <210> 489  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 489  
 cagggccttc agggccttca c 21  
  
 <210> 490  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 490  
 gctcagccaa acactgtca 19  
  
 <210> 491  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 491  
 ggggccctga cagtgtt 17

<210> 492  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
ctgagccgag actggagcat ctacac 26

<210> 493  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
gtgggcagcg tcttgct 17

<210> 494  
<211> 1231  
<212> DNA  
<213> Homo Sapien

<400> 494  
cccacgcgtc cgcgagctcg cgcagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggcccggggc tgtggcgtcg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgcgcgcgg aggagctcgg acggcatgct 150  
gagccccctc ctttgctgaa gcccagtgct ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtcgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccacagag aggggcagca aaagaagcgg 300  
tgggtggtggg cgtcgtggcc atggcggcgg ctatcgccag ctcgctcatc 350  
cgtcagaaga ggcaagcccg cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc ccagcaaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctgagcttaa gggatatgtt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgca 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtgtat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900



ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgtgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccagggtgctg ttgaattctt ctagcagtcc ttcacccaaa agttcaaatt 1150  
tgtcagtgc atttaccaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc catactaaag c 1231

<210> 495  
<211> 245  
<212> PRT  
<213> Homo Sapien

<400> 495  
Met Ala Ala Ala Ile Ala Ser Ser Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Arg Glu Lys Ser Asn Ala Cys Lys Cys Val Ser Ser  
20 25 30  
Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val  
35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
110 115 120  
Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Glu  
125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
200 205 210  
Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

	215	220	225
Ser Arg Ser Val	Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser		
	230	235	240
His Asn Glu Ser Thr			
	245		

<210> 496  
 <211> 1471  
 <212> DNA  
 <213> Homo Sapien

<400> 496  
 ccaggatgga gctggggcct gtatagccat attattgttc tatgctacta 50  
 gacatggggg ggacttggtg aaaaaggtat tatccagcca gagggctctgg 100  
 gagccctgtc ttactgaacc tgggcaacct ggatattctg agacatattt 150  
 tgggggggatt tcagtgaaaa aagtggggga tcccctccat ttagagtgtg 200  
 gcaaaggaaa aaacaccaag gttgggttcc ttctgacat tggcagtgcc 250  
 ccagtagggg tgggatgagc gaatattccc aaagctaaag toccacaccc 300  
 tgtagattac aagagtggat ttggcaggag tgtgccccaa aatacagtgg 350  
 aaaggtgcct gaagatattt aaaccacgtc ttggaaattt agtgggtctt 400  
 ggctttggga taggtgaagt gaggacagac actggagagg agggaaaggg 450  
 gaogttttca ataggaggca aaactcgagg gtgggatcca ctgaggagta 500  
 cataggctgc tggatctggt ggagccagca ctgggccccac ggggtggtaac 550  
 tggtctgtgt ggaggggggt acgtgagggg ggggtctggg gcttatcctc 600  
 aggtcctgtg ggtggggcag cgagtcgggg cctgagcgtc aagagcatgc 650  
 cctagtgagc gggctcctct gggggagccc agcgcgctcc gggcgctgc 700  
 cggtttgggg gtgtctcctc ccggggcgct atggcggcgc tggccagtag 750  
 cctgatccgg cagaagcggg aggtccgcga gcccgggggc agccggccgg 800  
 tgtcggcgca gggcgcggtg tgtcccgcg gcaccaagtc cctttgccag 850  
 aagcagctcc tcatoctgct gtccaagggt cgactgtgcg gggggcggcc 900  
 cgcgcggccg gaccgoggcc cggagcctca gctcaaaggc atcgtcacca 950  
 aactgttctg ccgccagggt ttctacctcc aggcgaatcc cgacggaagc 1000  
 atccagggca cccagagga taccagctcc ttcacccact tcaacctgat 1050  
 ccctgtgggc ctccgtgtgg tcaccatcca gagcgccaag ctgggtcact 1100  
 acatggccat gaatgtgtg ggactgctct acagttcgcc gcatttcaca 1150  
 gctgagtgtc gctttaagga gtgtgtcttt gagaattact acgtcctgta 1200  
 cgcctctgct ctctaccgcc agcgtcgttc tggccggggc tggtaacctg 1250

gcctggacaa ggagggccag gtcatgaagg gaaaccgagt taagaagacc 1300  
aaggcagctg cccactttct gcccaagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctccccttcc agtccccctg 1400  
ccccctgaaa tgtagtccct ggactggagg ttccctgcac tcccagtga 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
1 5 10 15  
Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

<212> DNA  
<213> Homo Sapien

<400> 498  
atggccgcgg ccacgcctag cggcttgatc cgccagaagc ggcaggcgcg 50  
ggagcagcac tgggaccggc cgtctgccag caggaggcgg agcagcccca 100  
gcaagaaccg cgggctctgc aacggcaacc tgggtgatat cttctccaaa 150  
gtgcgcattc tcggcctcaa gaagcgcagg ttgcggcgcc aagatcccca 200  
gctcaagggt atagtgcaca ggttatattg caggcaaggc tactacttgc 250  
aaatgcaccc cgatggagct ctcgatggaa ccaaggatga cagcactaat 300  
tctacactct tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
gggagtgaac acagggttgt atatagccat gaattggaga ggttacctct 400  
acccatcaga actttttacc cctgaatgca agtttaaga atctgttttt 450  
gaaaattatt atgtaattca ctcatccatg ttgtacagac aacaggaatc 500  
tggttagagc tgggtttttg gattaaataa ggaagggcaa gctatgaaag 550  
ggaacagagt aaagaaaacc aaaccagcag ctcattttct acccaagcca 600  
ttggaagttg ccatgtaccg agaaccatct ttgcatgatg ttggggaaac 650  
ggtcccgaag cctgggggtga cgccaagtaa aagcacaagt gcgtctgcaa 700  
taatgaatgg aggcaaacca gtcaacaaga gtaagacaac atag 744

<210> 499  
<211> 247  
<212> PRT  
<213> Homo Sapien

<400> 499  
Met Ala Ala Ala Ile Ala Ser Gly Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Gln His Trp Asp Arg Pro Ser Ala Ser Arg Arg Arg  
20 25 30  
Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val  
35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
50 55 60  
Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120

Thr Gly Leu Tyr	Ile Ala Met Asn Gly	Glu Gly Tyr Leu Tyr	Pro
	125	130	135
Ser Glu Leu Phe	Thr Pro Glu Cys Lys	Phe Lys Glu Ser Val	Phe
	140	145	150
Glu Asn Tyr Tyr	Val Ile Tyr Ser Ser	Met Leu Tyr Arg Gln	Gln
	155	160	165
Glu Ser Gly Arg	Ala Trp Phe Leu Gly	Leu Asn Lys Glu Gly	Gln
	170	175	180
Ala Met Lys Gly	Asn Arg Val Lys Lys	Thr Lys Pro Ala Ala	His
	185	190	195
Phe Leu Pro Lys	Pro Leu Glu Val Ala	Met Tyr Arg Glu Pro	Ser
	200	205	210
Leu His Asp Val	Gly Glu Thr Val Pro	Lys Pro Gly Val Thr	Pro
	215	220	225
Ser Lys Ser Thr	Ser Ala Ser Ala Ile	Met Asn Gly Gly Lys	Pro
	230	235	240
Val Asn Lys Ser	Lys Thr Thr		
	245		

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttggg tgccttgcaa aatgaagga tgcaggacgc agctttctcc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtggt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggcct ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttcctt tctttttgaa tttcccacia gaggagagga 500  
 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550  
 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600  
 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650  
 ttcacaaacc tccttttttt taaattttta ttctttttgg tatcaagatc 700  
 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750

gtgatcagtc tgaaatacaa ctgtttgaat tccagaagga ccaacaccag 800  
 ataaattatg aatgttgaac aagatgacct tacatccaca gcagataatg 850  
 ataggtccta ggtttaacag ggccctatatt gacccctgc ttgtggtgct 900  
 gctggtcttt caacttcttg tggtggctgg tctggtgctg gctcagacct 950  
 gcccttctgt gtgctcctgc agcaaccagt tcagcaagggt gatttgtgtt 1000  
 cggaaaaacc tgcgtgaggt tccggatggc atctccacca acacacggct 1050  
 gctgaacctc catgagaacc aaatccagat catcaaagt aacagcttca 1100  
 agcacttgag gcacttgga atcctacagt tgagtaggaa ccatatcaga 1150  
 accattgaaa ttggggcttt caatggctctg gcgaacctca acactctgga 1200  
 actctttgac aatcgtctta ctaccatccc gaatggagct tttgtatact 1250  
 tgtctaaact gaaggagctc tggttgcgaa acaaccccat tgaaagcatc 1300  
 ctttcttatg cttttaacag aattccttct ttgcgcgcac tagacttagg 1350  
 ggaattgaaa agactttcat acatctcaga aggtgccttt gaaggctctgt 1400  
 ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450  
 aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500  
 tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550  
 aactgtggat gatacagtcc cagattcaag tgattgaacg gaatgccttt 1600  
 gacaaccttc agtcactagt ggagatcaac ctggcacaca ataatctaac 1650  
 attactgcct catgacctct tcaactccctt gcatcatcta gagcggatac 1700  
 atttacatca caacccttgg aactgtaact gtgacatact gtggctcagc 1750  
 tggtggataa aagacatggc cccctcgaac acagcttggt gtgcccggtg 1800  
 taacactcct cccaatctaa aggggaggta cattggagag ctcgaccaga 1850  
 attacttcac atgctatgct ccggtgattg tggagcccc tgcagacctc 1900  
 aatgtcactg aaggcatggc agctgagctg aaatgtcggg cctccacatc 1950  
 cctgacatct gtatcttgga ttactccaaa tggaacagtc atgacacatg 2000  
 gggcgtacaa agtgccgata gctgtgctca gtgatggtac gttaaatttc 2050  
 acaaatgtaa ctgtgcaaga tacaggcatg tacacatgta tggtagtaaa 2100  
 ttccgttggg aatactactg cttcagccac cctgaatgtt actgcagcaa 2150  
 ccaactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200  
 ccgtctcagg atgaggcacg gaccacagat aacaatgtgg gtccactcc 2250  
 agtggctcagc tgggagacca ocaatgtgac cacctctctc acaccacaga 2300  
 gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350

agtgggatcc caggaattga tgaggatcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450  
 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500  
 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
 catggaaagc cacctgcccc tgcctgctat cgagcatgag cacctaaatc 2600  
 actataactc atacaaatct cccttcaacc acacaacaac agttaacaca 2650  
 ataaattcaa tacacagttc agtgcattgaa ccgttattga tccgaatgaa 2700  
 ctctaaagac aatgtacaag agactcaaatt ctaaaacatt tacagagtta 2750  
 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaacaa 2850  
 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
 Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly  
 1 5 10 15  
 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly	170	175	180
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	185	190	195
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg	200	205	210
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp	215	220	225
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln	230	235	240
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile	245	250	255
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val	260	265	270
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp	275	280	285
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His	290	295	300
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp	305	310	315
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys	320	325	330
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp	335	340	345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro	350	355	360
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys	365	370	375
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn	380	385	390
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val	395	400	405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp	410	415	420
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr	425	430	435
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro	440	445	450
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser	455	460	465
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro	470	475	480



Val Val Asp Trp	Glu Thr Thr Asn Val	Thr Thr Ser Leu Thr	Pro
485		490	495
Gln Ser Thr Arg	Ser Thr Glu Lys Thr	Phe Thr Ile Pro Val	Thr
500		505	510
Asp Ile Asn Ser	Gly Ile Pro Gly Ile	Asp Glu Val Met Lys	Thr
515		520	525
Thr Lys Ile Ile	Ile Gly Cys Phe Val	Ala Ile Thr Leu Met	Ala
530		535	540
Ala Val Met Leu	Val Ile Phe Tyr Lys	Met Arg Lys Gln His	His
545		550	555
Arg Gln Asn His	His Ala Pro Thr Arg	Thr Val Glu Ile Ile	Asn
560		565	570
Val Asp Asp Glu	Ile Thr Gly Asp Thr	Pro Met Glu Ser His	Leu
575		580	585
Pro Met Pro Ala	Ile Glu His Glu His	Leu Asn His Tyr Asn	Ser
590		595	600
Tyr Lys Ser Pro	Phe Asn His Thr Thr	Thr Val Asn Thr Ile	Asn
605		610	615
Ser Ile His Ser	Ser Val His Glu Pro	Leu Leu Ile Arg Met	Asn
620		625	630
Ser Lys Asp Asn	Val Gln Glu Thr Gln	Ile	
635		640	

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgccgggag cccatctgcc ccaggggca cggggcgcg ggccggctcc 50  
 cgcccgccac atggctgcag ccacctcgcg cgcaccccg ggcgccgccc 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctcct 200  
 ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttcctgg caggagatgc ctcttgagc attgaacctc tgaagcccag 500  
 tgatgagggc cggtacacct gtaagggtta gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatccaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcattcctct ggcacagagc ccatttgtga ttactggcag cgaatccgag 700  
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 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaattctgac 1250  
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 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
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<210> 503  
 <211> 373  
 <212> PRT  
 <213> Homo Sapien

<400> 503  
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 20 25 30  
 Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
 35 40 45  
 Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln  
 50 55 60  
 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
 65 70 75  
 Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
 80 85 90  
 Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
 95 100 105  
 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
 110 115 120  
 Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
 125 130 135  
 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
 140 145 150  
 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
 155 160 165  
 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
 170 175 180  
 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
 185 190 195  
 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
 200 205 210  
 Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
 215 220 225

Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser Leu Val Gly Pro Glu Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His His Ala Asn Leu Thr Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro Ser Gln Ser Arg Ala Phe Gln Thr Val	365	370	

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
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 ctctgtgctg gagtagtgga tttcgccaga agtttgagta tcactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
 aatttacgct tagtcccgaa gaccagggac cgctggacat cgagtggctg 250  
 atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
 attttacgag taatgatctc aaatctggtg atgcatcaat aaatgtaacg 400  
 aatttacaac tgtcagatat tggcacatat cagtgcaaag tgaaaaaagc 450  
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 cagggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgacttt 550  
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<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505  
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20 25 30  
Lys Ala Lys Gly Glu Thr Ala Tyr Leu Pro Cys Lys Phe Thr Leu  
35 40 45  
Ser Pro Glu Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Ile Ser  
50 55 60  
Pro Ala Asp Asn Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser  
65 70 75  
Gly Asp Lys Ile Tyr Asp Asp Tyr Tyr Pro Asp Leu Lys Gly Arg  
80 85 90  
Val His Phe Thr Ser Asn Asp Leu Lys Ser Gly Asp Ala Ser Ile  
95 100 105  
Asn Val Thr Asn Leu Gln Leu Ser Asp Ile Gly Thr Tyr Gln Cys  
110 115 120  
Lys Val Lys Lys Ala Pro Gly Val Ala Asn Lys Lys Ile His Leu

	125		130		135
Val Val Leu Val	Lys Pro Ser Gly Ala	Arg Cys Tyr Val Asp Gly			
	140		145		150
Ser Glu Glu Ile	Gly Ser Asp Phe Lys	Ile Lys Cys Glu Pro Lys			
	155		160		165
Glu Gly Ser Leu	Pro Leu Gln Tyr Glu	Trp Gln Lys Leu Ser Asp			
	170		175		180
Ser Gln Lys Met	Pro Thr Ser Trp Leu	Ala Glu Met Thr Ser Ser			
	185		190		195
Val Ile Ser Val	Lys Asn Ala Ser Ser	Glu Tyr Ser Gly Thr Tyr			
	200		205		210
Ser Cys Thr Val	Arg Asn Arg Val Gly	Ser Asp Gln Cys Leu Leu			
	215		220		225
Arg Leu Asn Val	Val Pro Pro Ser Asn	Lys Ala Gly Leu Ile Ala			
	230		235		240
Gly Ala Ile Ile	Gly Thr Leu Leu Ala	Leu Ala Leu Ile Gly Leu			
	245		250		255
Ile Ile Phe Cys	Cys Arg Lys Lys Arg	Arg Glu Glu Lys Tyr Glu			
	260		265		270
Lys Glu Val His	His Asp Ile Arg Glu	Asp Val Pro Pro Pro Lys			
	275		280		285
Ser Arg Thr Ser	Thr Ala Arg Ser Tyr	Ile Gly Ser Asn His Ser			
	290		295		300
Ser Leu Gly Ser	Met Ser Pro Ser Asn	Met Glu Gly Tyr Ser Lys			
	305		310		315
Thr Gln Tyr Asn	Gln Val Pro Ser Glu	Asp Phe Glu Arg Thr Pro			
	320		325		330
Gln Ser Pro Thr	Leu Pro Pro Ala Lys	Phe Lys Tyr Pro Tyr Lys			
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Thr Asp Gly Ile	Thr Val Val				
	350				

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
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 cccttgcoctg ggttttacctg tgcttctctg gagccaggta tcagggggccc 400  
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 tcgccagctc accccatcat ccctttccct tggtgccctc cttttttttt 1550  
 tctcctagtc attcttccct aatcttccac ttgagtgtca agotgacott 1600  
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 ccctgctaataaaaagacaac ataactccaa aaaaaaaaaa aaaaaaaaaa 1700  
 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

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				20					25					30
Val	Val	Leu	Pro	Cys	Leu	Gly	Phe	Thr	Leu	Leu	Leu	Trp	Ser	Gln
				35					40					45
Val	Ser	Gly	Ala	Gln	Gly	Gln	Glu	Phe	His	Phe	Gly	Pro	Cys	Gln
				50					55					60
Val	Lys	Gly	Val	Val	Pro	Gln	Lys	Leu	Trp	Glu	Ala	Phe	Trp	Ala
				65					70					75
Val	Lys	Asp	Thr	Met	Gln	Ala	Gln	Asp	Asn	Ile	Thr	Ser	Ala	Arg
				80					85					90
Leu	Leu	Gln	Gln	Glu	Val	Leu	Gln	Asn	Val	Ser	Asp	Ala	Glu	Ser
				95					100					105
Cys	Tyr	Leu	Val	His	Thr	Leu	Leu	Glu	Phe	Tyr	Leu	Lys	Thr	Val
				110					115					120
Phe	Lys	Asn	His	His	Asn	Arg	Thr	Val	Glu	Val	Arg	Thr	Leu	Lys
				125					130					135
Ser	Phe	Ser	Thr	Leu	Ala	Asn	Asn	Phe	Val	Leu	Ile	Val	Ser	Gln
				140					145					150
Leu	Gln	Pro	Ser	Gln	Glu	Asn	Glu	Met	Phe	Ser	Ile	Arg	Asp	Ser
				155					160					165
Ala	His	Arg	Arg	Phe	Leu	Leu	Phe	Arg	Arg	Ala	Phe	Lys	Gln	Leu
				170					175					180
Asp	Val	Glu	Ala	Ala	Leu	Thr	Lys	Ala	Leu	Gly	Glu	Val	Asp	Ile
				185					190					195
Leu	Leu	Thr	Trp	Met	Gln	Lys	Phe	Tyr	Lys	Leu				
				200					205					

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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 ataaattcca tattttacct atga 924

<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
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 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

155

160

165

Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

&lt;210&gt; 510

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;400&gt; 510

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&lt;210&gt; 511

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; Homo Sapien

&lt;400&gt; 511

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Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro
          20           25           30

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Leu	Leu	Gly	Ser	Ser	Trp	Gly	Gly	Leu	Ile	His	Leu	Tyr	Thr	Ala	
				35					40					45	
Thr	Ala	Arg	Asn	Ser	Tyr	His	Leu	Gln	Ile	His	Lys	Asn	Gly	His	
				50					55					60	
Val	Asp	Gly	Ala	Pro	His	Gln	Thr	Ile	Tyr	Ser	Ala	Leu	Met	Ile	
				65					70					75	
Arg	Ser	Glu	Asp	Ala	Gly	Phe	Val	Val	Ile	Thr	Gly	Val	Met	Ser	
				80					85					90	
Arg	Arg	Tyr	Leu	Cys	Met	Asp	Phe	Arg	Gly	Asn	Ile	Phe	Gly	Ser	
				95					100					105	
His	Tyr	Phe	Asp	Pro	Glu	Asn	Cys	Arg	Phe	Gln	His	Gln	Thr	Leu	
				110					115					120	
Glu	Asn	Gly	Tyr	Asp	Val	Tyr	His	Ser	Pro	Gln	Tyr	His	Phe	Leu	
				125					130					135	
Val	Ser	Leu	Gly	Arg	Ala	Lys	Arg	Ala	Phe	Leu	Pro	Gly	Met	Asn	
				140					145					150	
Pro	Pro	Pro	Tyr	Ser	Gln	Phe	Leu	Ser	Arg	Arg	Asn	Glu	Ile	Pro	
				155					160					165	
Leu	Ile	His	Phe	Asn	Thr	Pro	Ile	Pro	Arg	Arg	His	Thr	Arg	Ser	
				170					175					180	
Ala	Glu	Asp	Asp	Ser	Glu	Arg	Asp	Pro	Leu	Asn	Val	Leu	Lys	Pro	
				185					190					195	
Arg	Ala	Arg	Met	Thr	Pro	Ala	Pro	Ala	Ser	Cys	Ser	Gln	Glu	Leu	
				200					205					210	
Pro	Ser	Ala	Glu	Asp	Asn	Ser	Pro	Met	Ala	Ser	Asp	Pro	Leu	Gly	
				215					220					225	
Val	Val	Arg	Gly	Gly	Arg	Val	Asn	Thr	His	Ala	Gly	Gly	Thr	Gly	
				230					235					240	
Pro	Glu	Gly	Cys	Arg	Pro	Phe	Ala	Lys	Phe	Ile					
				245					250						

<210> 512  
 <211> 2015  
 <212> DNA  
 <213> Homo Sapien

<400> 512  
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 ctgctgggag gttggggtct ctgggagctc tgcaggcccc agcaccgcga 150  
 gagcagacac tgcgatgaca acggacgaca cagaagtgcc cgctatgact 200  
 ctagcaccgg gccacgccgc tctggaaact caaacgctga gcgctgagac 250  
 ctcttctagg gcctcaaccc cagccggccc cattccagaa gcagagacca 300

ggggagccaa gagaatttcc cctgcaagag agaccaggag tttcacaaaa 350  
 acatctocca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtga tcccaggagg gccatctttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaagac actcacaatg gacatattga cattggctca 550  
 cacctocaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
 acggccccca tccagtcatc acccgcgtac gggcctcaga gagcagcgcc 650  
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 cagcgctctt tccgacggcc cccatccagt catcaccccg tcatgggtcc 750  
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 catccctggg gcctcagaca tagatctcat cccacggaa ggggtgaagg 900  
 cctcgccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
 ccacacatca ctgagggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
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 ctaacagcgc cacagaaaga gaagtgcag caccgggggc cagcaccctc 1100  
 agtggagctc tggtcacagt tagcaggaat cccctggaag aaacctcagc 1150  
 cctctctgtt gagacaccaa gttacgtcaa agtctcagga gcagctccgg 1200  
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 ccagcaggga ccctcttctt tctgtccctc cgactacaac caacagcagc 1400  
 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
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 gggcagcatg tccaagcccc taacccaga tgtggcaaca ggaccctcgc 1850  
 tcacatccac cggagtgtat gtatggggag gggcttcacc tgttcccaga 1900

ggtgtccttg gactcacctt ggcacatgtt ctgtgtttca gtaaagagag 1950  
 acctgatcac ccactctgtgt gcttccatcc tgcattaaaa ttcactcagt 2000  
 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
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 Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg  
 20 25 30  
 Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala  
 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
 80 85 90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
 95 100 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
 110 115 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
 125 130 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
 140 145 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
 155 160 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
 170 175 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
 185 190 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
 200 205 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
 215 220 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
 230 235 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
 245 250 255

Thr Glu Ile Glu Thr Thr Thr Ser Ser Ile Pro Gly Ala Ser Asp	260	265	270
Ile Asp Leu Ile Pro Thr Glu Gly Val Lys Ala Ser Ser Thr Ser	275	280	285
Asp Pro Pro Ala Leu Pro Asp Ser Thr Glu Ala Lys Pro His Ile	290	295	300
Thr Glu Val Thr Ala Ser Ala Glu Thr Leu Ser Thr Ala Gly Thr	305	310	315
Thr Glu Ser Ala Ala Pro His Ala Thr Val Gly Thr Pro Leu Pro	320	325	330
Thr Asn Ser Ala Thr Glu Arg Glu Val Thr Ala Pro Gly Ala Thr	335	340	345
Thr Leu Ser Gly Ala Leu Val Thr Val Ser Arg Asn Pro Leu Glu	350	355	360
Glu Thr Ser Ala Leu Ser Val Glu Thr Pro Ser Tyr Val Lys Val	365	370	375
Ser Gly Ala Ala Pro Val Ser Ile Glu Ala Gly Ser Ala Val Gly	380	385	390
Lys Thr Thr Ser Phe Ala Gly Ser Ser Ala Ser Ser Tyr Ser Pro	395	400	405
Ser Glu Ala Ala Leu Lys Asn Phe Thr Pro Ser Glu Thr Pro Thr	410	415	420
Met Asp Ile Ala Thr Lys Gly Pro Phe Pro Thr Ser Arg Asp Pro	425	430	435
Leu Pro Ser Val Pro Pro Thr Thr Thr Asn Ser Ser Arg Gly Thr	440	445	450
Asn Ser Thr Leu Ala Lys Ile Thr Thr Ser Ala Lys Thr Thr Met	455	460	465
Lys Pro Gln Gln Pro Arg Pro Arg Leu Pro Gly Arg Gly Arg Pro	470	475	480

Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

<400> 514  
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 tccttccgc gggcgcgaca gagctgtcct cgcacctgga tggcagcagg 100  
 ggcgccgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gacccaaaact aaactgaaat ttaaaatgtt cttcggggga gaaggagct 250

tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gcctcaaaaa gagtctagaa gatgttgtca ttgacatcca 350  
 gtcattctctt tctaagggaa tcagaggcaa tgagcccgta tatacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450  
 gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500  
 acccaactgc tacctatttt tctgtcccaa cgagggaagcc tgtccattga 550  
 aaccagcaaa aggacttatg agttacagga taattacaga ttttccatct 600  
 ttgaccagaa atttgccaag ccaagagtta cccaggaag attctctctt 650  
 acatggccaa ttttcacaag cagtcactcc cctagcccat catcacacag 700  
 attattcaaa gccaccgat atctcatgga gagacacact ttctcagaag 750  
 tttggatcct cagatcacct ggagaaacta ttaagatgg atgaagcaag 800  
 tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
 tttctctga tcaagaaata gctcatctgc tgcccgaaaa tgtgagtgcg 900  
 ctcccagcta cgggtggcagt tgcttctcca cataccacct cggctactcc 950  
 aaagcccgcc acccttctac ccaccaatgc ttcagtgaca ccttctggga 1000  
 cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
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 tacactccaa gcaatggcta caacagcagt tctgactacc acctttcagg 1150  
 cacctacgga ctcgaaaggc agcttagaaa ccataccgtt tacagaaatc 1200  
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 cagtacggcc ttccatttga aaaatggctt cttatcgggt cctgtctctt 1400  
 tgggtgcctg ttctgggtga taggcctcgt cctcctgggt agaatccttt 1450  
 cggaatcact cgcagggaaa cgttactcaa gactggatta tttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550  
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 tttttttttt ggagacagag tcttgctctg ttgccaggc tggagtgcag 1700  
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 ttctcctgcc tcagcctcct aagtatctgg gattacaggc atgtgccacc 1800  
 acacctgggt gatTTTTTgta ttttagtag agacggggtt tcaccatgtt 1850



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 cccaaagtgc tgggattaca ggcattgagcc accacagctg gcccccttct 1950  
 gttttatggt tgggttttga gaaggaatga agtgggaacc aaattaggta 2000  
 attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
 tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150  
 tggttccaga taaaatcaac tggtttatct aatttctaag ggatttgctt 2200  
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<210> 515  
 <211> 431  
 <212> PRT  
 <213> Homo Sapien

<400> 515  
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 Ile Cys Phe Leu Thr Leu Arg Leu Ser Ala Ser Gln Asn Cys Leu  
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 Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu  
 35 40 45  
 Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln  
 50 55 60  
 Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly  
 65 70 75  
 Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala  
 80 85 90  
 Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala  
 95 100 105  
 Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile  
 110 115 120  
 Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu  
 125 130 135  
 Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val  
 140 145 150  
 Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp  
 155 160 165  
 Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp  
 170 175 180  
 His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu  
 185 190 195

Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser	
				200					205					210	
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala	
				215					220					225	
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala	
				230					235					240	
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr	
				245					250					255	
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	
				260					265					270	
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	
				275					280					285	
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr	
				290					295					300	
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly	
				305					310					315	
Ser	Leu	Glu	Thr	Ile	Pro	Phe	Thr	Glu	Ile	Ser	Asn	Leu	Thr	Leu	
				320					325					330	
Asn	Thr	Gly	Asn	Val	Tyr	Asn	Pro	Thr	Ala	Leu	Ser	Met	Ser	Asn	
				335					340					345	
Val	Glu	Ser	Ser	Thr	Met	Asn	Lys	Thr	Ala	Ser	Trp	Glu	Gly	Arg	
				350					355					360	
Glu	Ala	Ser	Pro	Gly	Ser	Ser	Ser	Gln	Gly	Ser	Val	Pro	Glu	Asn	
				365					370					375	
Gln	Tyr	Gly	Leu	Pro	Phe	Glu	Lys	Trp	Leu	Leu	Ile	Gly	Ser	Leu	
				380					385					390	
Leu	Phe	Gly	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Val	Leu	Leu	Gly	
				395					400					405	
Arg	Ile	Leu	Ser	Glu	Ser	Leu	Arg	Arg	Lys	Arg	Tyr	Ser	Arg	Leu	
				410					415					420	
Asp	Tyr	Leu	Ile	Asn	Gly	Ile	Tyr	Val	Asp	Ile					
				425					430						

<210> 516  
 <211> 2749  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

<400> 516  
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gcgggttcga aggggacact gtgtccctgc agtgcaccta caggggaagag 150  
 ctgagggacc accggaagta ctggtgcagg aagggtggga tctctttctc 200  
 tcgctgctct ggccaccatct atgcagaaga agaaggccag gagacaatga 250  
 agggcaggggt gtccatccgt gacagccgcc aggagctctc gtcattgtg 300  
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 cgaaaaacgg ggccccgatg agtctttact gatctctctg ttctcttttc 400  
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 acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agccccagg 500  
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 cacctcagcc tcagagtcca gctgcccgga ctccagggtt cttccaccc 1150  
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 ctgcaaaactc cgcctcctgg gttcaagtga ttcttctgcc tcagcctccc 2250  
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 ctttttagtag agatgggggtt tcaccatggt gcccaggctg gtcttgaact 2350  
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 gaagaaaaaa atgtcaccca tagtctcacc agagactatc attatttcgt 2550  
 tttgtgtac ttcttccac tcttttcttc ttcacataat ttgccggtgt 2600  
 tctttttaca gagcaattat cttgtatata caactttgta tctgcctttt 2650  
 tccaccttat cgttccatca ctttattcca gcacttctct gtgttttaca 2700  
 gaccttttta taaataaaat gttcatcagc tgcataaaaa aaaaaaaaaa 2749

<210> 517

<211> 332

<212> PRT

<213> Homo Sapien

<400> 517

Met	Arg	Leu	Leu	Val	Leu	Leu	Trp	Gly	Cys	Leu	Leu	Leu	Pro	Gly
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Tyr	Glu	Ala	Leu	Glu	Gly	Pro	Glu	Glu	Ile	Ser	Gly	Phe	Glu	Gly
				20					25					30
Asp	Thr	Val	Ser	Leu	Gln	Cys	Thr	Tyr	Arg	Glu	Glu	Leu	Arg	Asp
				35					40					45
His	Arg	Lys	Tyr	Trp	Cys	Arg	Lys	Gly	Gly	Ile	Leu	Phe	Ser	Arg
				50					55					60
Cys	Ser	Gly	Thr	Ile	Tyr	Ala	Glu	Glu	Glu	Gly	Gln	Glu	Thr	Met
				65					70					75

Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu		80	85	90
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr		95	100	105
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile		110	115	120
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser		125	130	135
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala		140	145	150
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu		155	160	165
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu		170	175	180
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr		185	190	195
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro		200	205	210
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala		215	220	225
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg		230	235	240
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu		245	250	255
Leu	Ser	Leu	Leu	Ser	Ala	Ala	Gly	Leu	Ile	Ala	Phe	Cys	Ser	His		260	265	270
Leu	Leu	Leu	Trp	Arg	Lys	Glu	Ala	Gln	Gln	Ala	Thr	Glu	Thr	Gln		275	280	285
Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys		290	295	300
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro		305	310	315
Pro	Leu	His	Thr	Ser	Glu	Glu	Glu	Leu	Gly	Phe	Ser	Lys	Phe	Val		320	325	330

Ser Ala

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